GV-300E

SERVICE MANUAL

AEP Model
UK Model
Germany Model

VIDEO
WALKMAN

SPECIFICATIONS

System

Video recording system	Rotary two-head helical scanning FM system
Audio recording system	Rotary head, FM system
Video signal	CCIR system B, G, H and I, PAL colour
Usable cassettes	8 mm video format cassettes
Tape speed	SP: approx. 2.0051 cm/sec. LP: approx. 1.0058 cm/sec
Recording time	SP mode: 1.5 hours LP mode: 3 hours (with Sony P5-90 cassette)
Playback time	SP mode: 1.5 hours LP mode: 3 hours (with Sony P5-90 cassette)
Fast forward/rewinding time	Approx. 7 minutes (with Sony P5-90 cassette)

LCD section

Picture	4 inches measured diagonally 8.2 × 6.2 cm (3 1/4 × 2 1/2 inches)
On-screen display	TN LCD/TFT active matrix method Total picture-element number: 112,086 (479 × 234)

Tuner section

Channel coverage	VHF: E2 – E12 channels UHF: 21 – 69 channels Cable TV channels: S01 – S20
Aerial input	75-ohm minijack for VHF/UHF

Inputs/outputs

VIDEO/AUDIO IN/OUT	Selectable automatically according to the operation
Video input	Phono jack, 1 Vp-p, 75 ohms, unbalanced, sync negative
Video output	Phono jack, 1 Vp-p, 75 ohms, unbalanced, sync negative
Audio input	Phono jack, – 7.5 dBs (0 dBs = 0.775 Vrms), input impedance more than 47 kilohms
Audio output	Phono jack, – 7.5 dBs (330 mV) at load impedance 47 kilohms, output impedance less than 10 kilohms
Speakers	16 ohms, 150 mW
Earphones	Stereo minijack, 8 ohms × 2
CONTROL S	Minijack
Camera input	12-pin

Timer section

Clock	Crystal lock
Time indication	24-hour cycle
Timer setting	Only for recording, 1 event/24 hours

MICROFILM

General

Power requirements	Battery mounting surface input: 6.0 V (battery pack) 6.5 V (DC pack DCP-77)
Power consumption	6.9 W (for continuous playback)
Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	– 20°C to 60°C (– 4°F to 140°F)
Dimensions	129 × 71 × 226 mm (w/h/d) (5 1/8 x 2 7/8 x 9 inches)
Weight	Approx. 1.1 kg (2 lb 7 oz) not incl. battery pack
Accessories supplied	Stereo earphones (1) Connecting cord (1) Carrying case (1) Battery pack NP-66H (1) **(AEP, UK Model)** AC power adaptor AC-V30 (1) Lithium battery (1)

AC-V30

Power consumption	20 W
Power requirements	100 – 240 V AC, 50/60 Hz
Output voltage	DC OUT: 7.5 V, 1.6 A in operating mode
Battery charge terminal:	10 V, 1.3 A in charge mode
Operating temperature	0 C°to 40°C (32°F to 104°F)
Storage temperature	– 20°C to 60°C (– 4°F to 140°F)
Dimensions	Approx. 67 × 39 × 138 mm (w/h/d) (2 3/4 × 1 3/8 × 5 1/2 inches) including projecting parts and controls
Weight	Approx. 310 g (11 oz)

Design and specifications are subject to change without notice.

Note
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

— Continued on next page —

For MECHANICAL ADJUSTMENT, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL III (U MECHANISM)" (9-972-732-11)

8 VIDEO TV RECORDER

SONY®

LIST OF RECOMMENDED ACCESSORIES

	Model name	Page
Battery pack	NP-77H, NP-77, NP-55	12
AC power adaptor/Battery charger	AC-V55, BC-55	12
Car battery charger	DC-V30	11
DC pack	DCP-77, DCP-55	17
Color video camera	CCD-G100STE, CCD-G100E, CCD-G1E	47, 48
Pan tilter	HVR-200	51
Connecting cord	VMC-810ES/820ES (1m/2m) VMC-710EM/720EM (1m/2m)	52, 56
Cleaning cassette	V8-25CLH	62
RFU adaptor kit	RFU-89EKA	55

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1
GENERAL

This section is extracted from instruction manual.

Features

The "Video Walkman" GV-300E is an 8mm video recorder with a LCD (Liquid Crystal Display). Its compact and lightweight design allows you to watch TV programmes and video tapes anywhere and anytime you like.

With this video TV recorder, you can:
- view the playback picture of 8 mm video tapes.
- view TV programmes.
- record TV programmes.

In addition, by connecting it to a video camera (not supplied), you can record pictures with the camera, and play back the recorded pictures on it immediately.

Other features

- Hi-fi stereo for high quality sound *
- CRYSTAL-CLEAR still/slow/picture search on LCD
- Timer-activated recording
- SLEEP timer for turning off the unit automatically
- MEGA BASS circuit for dynamic bass sound

*** Hi-fi Stereo System**

On the 8 mm video standard track, the sound is recorded/played back in Hi-fi monaural.
The PCM digital stereo sound is recorded/played back on the PCM track as an option.
With this unit, Hi-fi stereo sound can be recorded on the standard track.
To maintain compatibility with the conventional Hi-fi monaural equipment, the Hi-fi stereo sound is recorded as L − R sound using the 1.7 MHz carrier and L + R sound using the 1.5 MHz carrier as the FM audio signal.
To play back the tape recorded by its Hi-fi stereo system, this unit uses a matrix circuit to produce the L and R stereo sounds separately. When conventional Hi-fi monaural equipment is used to play back a tape recorded in Hi-fi stereo, it will produce the L + R monaural sound because it can reproduce only the 1.5 MHz carrier.
The Hi-fi stereo system of this unit provides a live stereo sound atmosphere even when using the 8 mm video standard track.

This unit uses 8 mm video format cassettes. It records in the SP mode (approximately 2.0051 cm/second) and the LP mode (approximately 1.0058 cm/second) and can play back in the SP mode and LP mode. The quality of the playback picture in the LP mode, however, will not be as good as that in the SP mode.

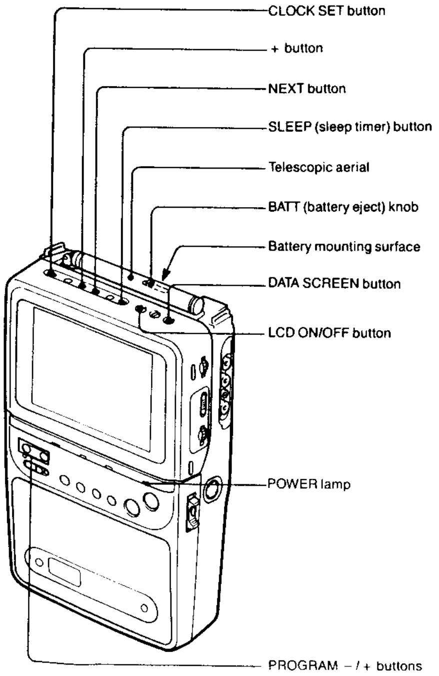
Television programmes, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

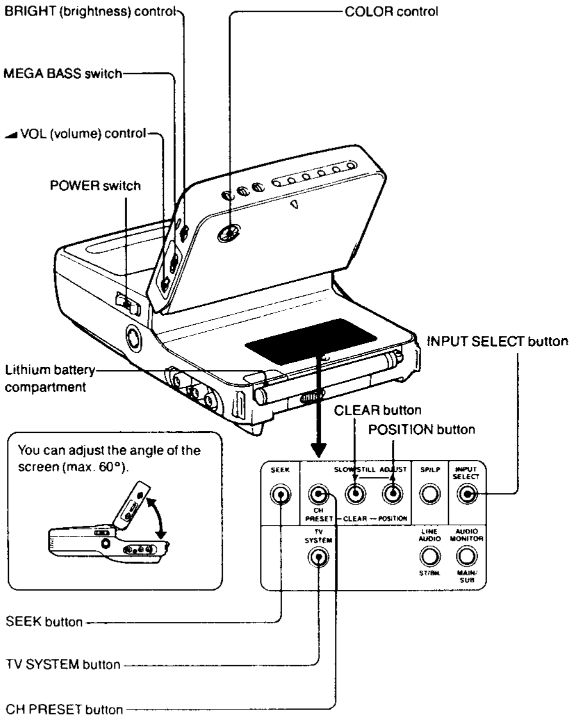
PCM recording/playback is not possible with this unit. The PCM sound recorded with another recorder cannot be played back with this unit.

For using this unit abroad, see page 64.

Location of Parts and Controls

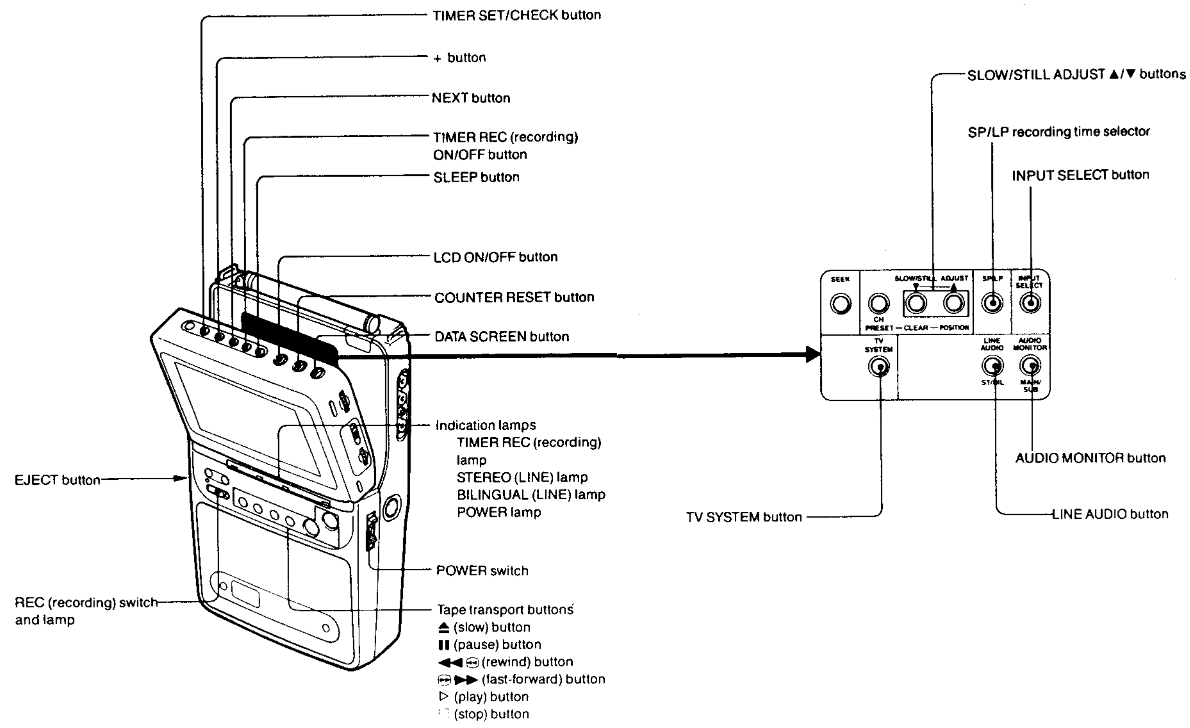
Parts used for watching TV programmes


CLOCK SET button
+ button
NEXT button
SLEEP (sleep timer) button
Telescopic aerial
BATT (battery eject) knob
Battery mounting surface
DATA SCREEN button
LCD ON/OFF button
POWER lamp
PROGRAM − / + buttons

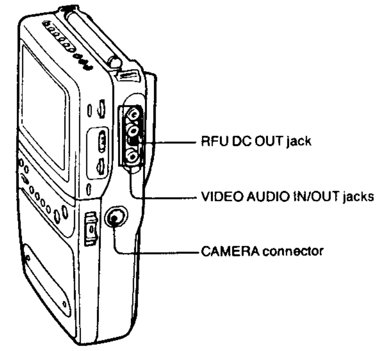

BRIGHT (brightness) control
COLOR control
MEGA BASS switch
VOL (volume) control
POWER switch
INPUT SELECT button
Lithium battery compartment
CLEAR button
POSITION button
SEEK
SLOW/STILL ADJUST
SP/LP
INPUT SELECT
CH PRESET
CLEAR
POSITION
TV SYSTEM
LINE AUDIO
AUDIO MONITOR
ST/BIL
MAIN/SUB
SEEK button
TV SYSTEM button
CH PRESET button

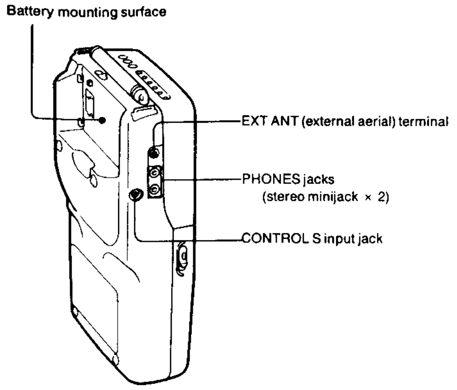
You can adjust the angle of the screen (max. 60°).

Parts used for VTR playback/recording


TIMER SET/CHECK button
+ button
NEXT button
TIMER REC (recording) ON/OFF button
SLEEP button
LCD ON/OFF button
COUNTER RESET button
DATA SCREEN button
Indication lamps
TIMER REC (recording) lamp
STEREO (LINE) lamp
BILINGUAL (LINE) lamp
POWER lamp
EJECT button
POWER switch
REC (recording) switch and lamp
Tape transport buttons
▲ (slow) button
II (pause) button
◀◀ (rewind) button
▶▶ (fast-forward) button
▷ (play) button
□ (stop) button
SLOW/STILL ADJUST ▲/▼ buttons
SP/LP recording time selector
INPUT SELECT button
SEEK
SLOW/STILL ADJUST
SP/LP
INPUT SELECT
CH PRESET — CLEAR — POSITION
TV SYSTEM
LINE AUDIO
AUDIO MONITOR
ST/BIL
MAIN/SUB
AUDIO MONITOR button
TV SYSTEM button
LINE AUDIO button

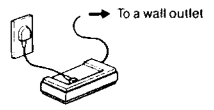
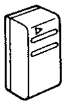
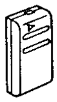
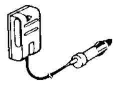
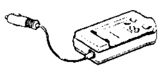
Parts used for connection


RFU DC OUT jack
VIDEO AUDIO IN/OUT jacks
CAMERA connector


Battery mounting surface
EXT ANT (external aerial) terminal
PHONES jacks
(stereo minijack × 2)
CONTROL S input jack

Getting Ready Power Sources

Selection of Power Sources

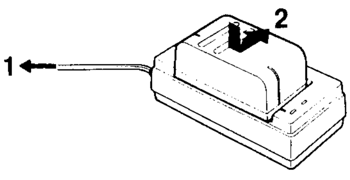
Place	Power sources		Page
Indoors	AC power adaptor AC-V30 (supplied)  To a wall outlet		16
Outdoors	Battery pack NP-66H (supplied), NP-77H or NP-77 	NP-55 	12
In the car	DC pack DCP-77 	Car battery charger DC-V30 	17

The above accessories, except for the AC-V30 and NP-66H, are not supplied.

Disconnecting the power source during recording or playback operations may damage the cassette tape. If this is done accidentally, supply the power again immediately and turn the power on.

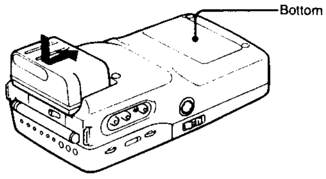
Using with Battery Pack — NP-66H, NP-77H, NP-77 or NP-55

1 First, charge the battery pack.
Use the supplied AC-V30 AC power adaptor.



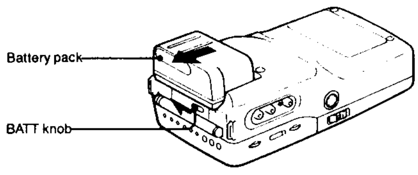
1 Connect the AC-V30 to a wall outlet.
2 Install the battery pack.
Align the right side of the battery pack with the line on the AC power adaptor.
3 While pressing the battery pack, slide it in the direction of the arrow.
The POWER lamp (green) and the CHARGE lamp (orange) on the AC-V30 light up.
The charging begins.
When the charging is completed, the CHARGE lamp goes out.
Unplug the unit from the wall outlet and the POWER lamp goes out.

2 Attach the battery pack to the video TV recorder.
Align the battery pack with the white line on the video TV recorder, then while pressing, slide the battery pack in the direction of the arrow.



- The charging time is about 100 minutes for NP-66H, 120 minutes for an NP-77, 140 minutes for NP-77H, and 60 minutes for an NP-55.
- The unit cannot be operated with the AC power adaptor when it is used for charging a battery pack, and the battery pack cannot be charged when the AC power adaptor is used to operate the unit.
- An NP-66H, NP-77, NP-55or NP-77H can also be charged with the BC-55 or AC-V55 battery charger/AC power adaptor.

To remove the battery pack



While sliding the BATT knob in the direction of the arrow, slide the battery pack as illustrated.

Operating time

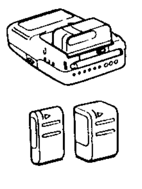
A fully-charged battery pack can operate this unit as follows:

	LCD ON/OFF	NP-77H	NP-77	NP-66H	NP-55
Watching TV programs	ON	Approx. 130 min.	Approx. 110 min.	Approx. 100 min.	Approx. 55 min.
VTR playing back	ON	Approx. 120 min.	Approx. 100 min.	Approx. 90 min.	Approx. 50 min.
TV programme recording	ON	Approx. 95 min.	Approx. 75 min.	Approx. 70 min.	Approx. 40 min.
TV programme recording	OFF	Approx. 140 min.	Approx. 120 min.	Approx. 105 min.	Approx. 60 min.
Camera recording *	OFF	Approx. 100 min.	Approx. 80 min.	Approx. 75 min.	Approx. 40 min.

* When connecting the color video camera CCD-G100STE (not supplied).

Using the Battery Pack Efficiently

How to prepare the rechargeable battery packs

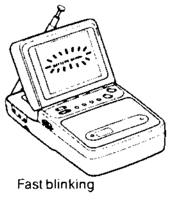


Have sufficient battery pack power to perform 2 or 3 times the amount of recording that you plan to do.
"Battery life" as indicated in the instruction manual or catalogue of the video TV recorder is measured by the continuous use of the video TV recorder, at room temperature, using a fully charged battery.
Fast winding or rewinding tape operations consumes much more battery power than normal tape transport operation. Consequently, battery life becomes shorter when these operations are performed frequently.

Battery life is shorter in a cold climate.
Cold climates reduce the efficiency of a battery and cause it to run out more quickly.

When to replace the rechargeable battery pack

When the battery pack is exhausted, the POWER lamp (during recording, the "BATTERY DOWN" indication on the screen as well) starts blinking slowly about five minutes before the battery pack is discharged. (When this happens, some of the indications may not appear on the screen.)
Replace the battery when the blinking changes from slow to fast, and the "BATTERY DOWN" indication starts blinking rapidly.



Fast blinking

Turn off the power of the video TV recorder before replacing the battery. While replacing the battery, keep the cassette inside the cassette holder. When the battery has been replaced, recording can be resumed smoothly without any picture distortion.

Notes on battery exhaustion when a camera is connected
When the battery is exhausted, the tally lamp (red) displayed in the viewfinder of the camera starts blinking, and the power goes off automatically. Replace the battery pack with a fully charged one when the blinking starts.

Notes on charging

Before using the battery pack, charge it sufficiently. A brand-new battery pack is not charged.
Recharge the battery pack when it is fully exhausted.
- If the operation is completed before the BATTERY DOWN indication on the screen or POWER lamp starts blinking, it is recommended that you discharge the battery pack by playing back a tape until BATTERY DOWN or POWER lamp starts blinking rapidly.
- Do not recharge the battery pack before it has been discharged completely. Repeated charging while some capacity remains will reduce the battery capacity. However, the original battery capacity can be recovered if you fully discharge and fully charge the battery pack again

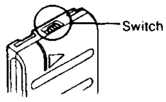
Keep the terminals clean

If the terminals (metal parts on the back) are soiled, the battery life will become shorter. When the terminals are soiled, or when the battery pack has not been used for a long time, repeatedly attach and remove it several times. This will improve the contact of the battery pack and the video TV recorder. Also, wipe the + and − terminals with a soft cloth or paper.

Notes on the rechargeable battery pack

Battery pack care
- Remove the battery pack from the video TV recorder after use, and keep it in a cool place. When the battery pack is installed on a video TV recorder, a small amount of current flows to the recorder even if the POWER switch is turned off. This causes overdischarge and, consequently, shortens the life of the battery.
- The battery pack is always discharging - even when it is not in use. Thus, the battery should be charged before each use.

How to use the switch on the battery pack
Use this switch as a reminder of the charging condition. Set the switch to the "no mark" position when the charging is completed. Set the switch to the "red mark" position when the battery has been discharged.



How many times can the battery pack be recharged
It can be fully charged and discharged about 500 times under normal temperatures. If the BATTERY DOWN indication blinks rapidly just after turning on the recorder, even though a fully charged battery pack has been installed, replace the battery pack with a brand new one.

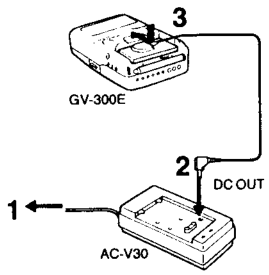
Charging temperature
Lower temperatures require a longer charging time.
Charging under a temperature ranging from 10°C to 30°C (50°F to 86°F) is recommended.

Why the battery pack heats up
While the battery pack is being charged or used, a chemical change occurs inside the battery pack which generates electric energy. Consequently, the battery pack becomes warm, but this is not dangerous.

Carrying the battery pack
If the + and − terminals are short-circuited with a piece of metal, the battery heat up abnormally. This is very dangerous. Never put an uncovered battery pack in a pocket together with a key holder or other metal object.

If the battery pack is not used for a long time (about 1 year)
Charge it again, but in this case the battery life will be shorter than normal. After several charging and discharging cycles, the battery life will recover its original capacity.

Using with AC Power Adaptor — AC-V30



1 **Connect the AC power adaptor to a wall outlet.**

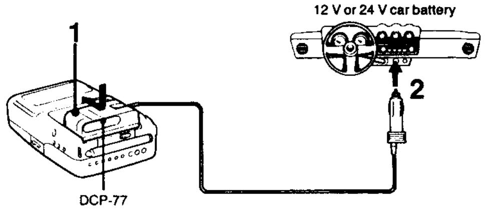
2 **Insert into the DC OUT jack.**

3 **Align the left side of the connecting plate with the white line on the video TV recorder, and while pressing it, slide in the direction of the ▶ mark.**

To remove the connecting plate
While sliding the BATT knob, slide out the connecting plate.

- The unit is not disconnected from the AC power source as long as it is connected to the wall outlet.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment because it will disturb AM reception and video operation.

Using This Unit with a Car Battery — DCP-77



1 **Attach the DC pack to the video TV recorder.**

2 **Connect the plug to the cigarette lighter socket.**

- Connect the DCP-77 only to a car with a negative ground car batteries of 12 V or 24 V.
- Attach or remove the DC pack in the same way as the battery pack.

Notes
- Be careful not to let any metal object touch the metal projection on the battery pack. When the battery pack is not used, keep it in its case.
- Keep the video TV recorder away from the power source. If not, noise may appear on the screen.

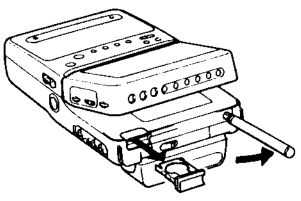
Notes on using this unit in a car
- For your safety, do not watch the TV or operate the controls while driving.
- Avoid leaving the unit in a place with very high temperatures. If you do, it may cause distortion of the cabinet or malfunction of the unit.
- If you use this unit while your car is not in use, the car battery will be consumed. Avoid using this unit in such condition for more than 12 hours.

Setting the Clock

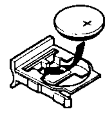
Before you set the clock, install a lithium battery. With a lithium battery installed, this unit powers the clock and keeps the last channel in memory when the power source is disconnected.

Inserting a Lithium Battery

1 **Pull out the lithium battery compartment.**

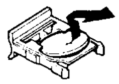


2 **Install the supplied CR2032 lithium battery with the + side facing out.**



3 **Reinsert the compartment.**

To remove the lithium battery
Press the battery upward and remove it as illustrated.



Lithium battery life

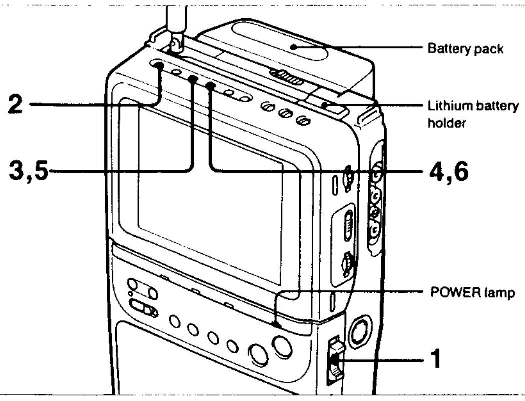
Approximately 1 year in normal operation.
If the lithium battery becomes weak, the 0 : 00 indication appears on the screen when the DATA SCREEN button is pressed, and the clock does not operate. In this case, replace the battery with a Sony CR2032 lithium battery. Use of another battery may present a risk of fire or explosion. After replacing the battery, reset the clock.

Cautions
- Keep the lithium battery out of the reach of children.
  Should the battery be swallowed, consult a doctor immediately.
- Before use, wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.
- Do not break up the battery or throw it into a fire because it may explode. Carefully dispose of the used batteries.

Warning
Battery may explode if mistreated. Do not recharge, disassemble or dispose of in fire.

Setting the Clock

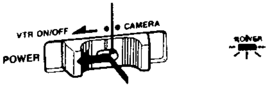
Before setting
Make sure that the power source is connected correctly.


Battery pack
Lithium battery holder
2
3,5
4,6
POWER lamp
1

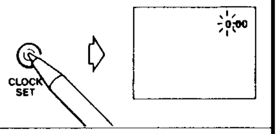
Example: Set to 13:15

1 Turn the power on.
The POWER lamp lights up.

While pressing the green button, slide the POWER switch to the left to turn the power on.

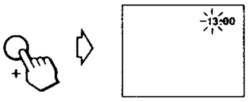

VTR ON/OFF
CAMERA
POWER

2 Press the CLOCK SET button with a pen or similar object.
The screen will enter the time setting mode.
The screen becomes dark.
The next item to be set blinks.

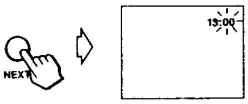

CLOCK SET
0:00

3 Set the hour.
Press the + button repeatedly until you get the desired setting.

If you keep the button pressed, the indication will advance continuously.

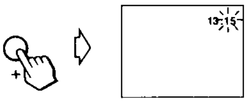


4 Press the NEXT button.

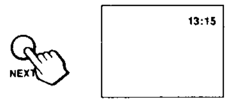


5 Set the minute.
Press repeatedly until you get the desired setting.

If you keep the button pressed, the indication will advance continuously.



6 Press the NEXT button.
The clock starts.
The screen goes back to the normal brightness.



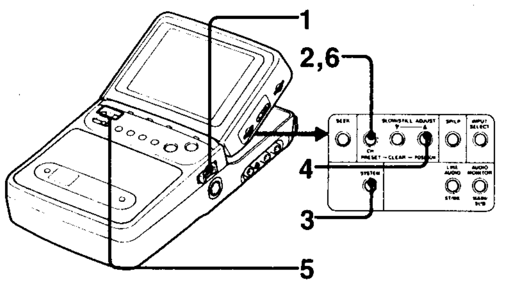
Note
If the lithium battery is not installed, the clock will go back to "0:00" each time the power source is disconnected.

Presetting TV Channels

Your receiver is capable of receiving VHF channels E2-E12, UHF channels 21-69, and CATV channels S01-S20. Up to 60 channels can be allocated to any desired programme position.

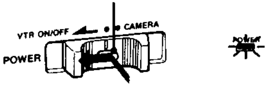
To Preset Channels

Before you start presetting, pull out the telescopic aerial or connect an external aerial.

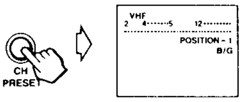


1 Turn the power on.
The POWER lamp lights up.
If the TV programme is not displayed, press the INPUT SELECT button.

While pressing the green button, slide the POWER switch to the left.


VTR ON/OFF
CAMERA
POWER

2 Press the CH PRESET button.


CH PRESET
VHF
2 4·······5 12·········
POSITION - 1
B/G

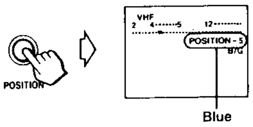
3 Press the TV SYSTEM button to select the TV system in your area.
The indication changes as follows:

B/G → I

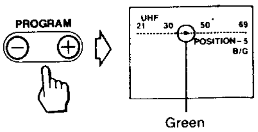
B/G: Other western European countries
I: UK/Ireland

Note
If the TV system is not selected correctly, the sound will be poor or noise may be heard.

4 Press the POSITION button to select the desired programme position where the channel is to be stored.

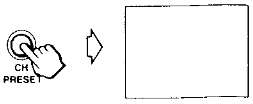

POSITION
VHF
2 4·······5 12·········
POSITION - 5
B/G
Blue

5 Press the PROGRAM –/+ buttons repeatedly to select the channel to be stored.
The UHF channel range is displayed after the VHF range*.
Repeat steps 4 and 5 for other channels to be preset.


PROGRAM
UHF
21 30 50 69
POSITION – 5
B/G
Green

6 Press the CH PRESET button.
Channel presetting is completed.

The on-screen display disappears.



Programme scanning on your video TV recorder
When the PROGRAM + button is pressed, the channels are scanned in the following order.
When the PROGRAM – button is pressed, the scanning order is reversed

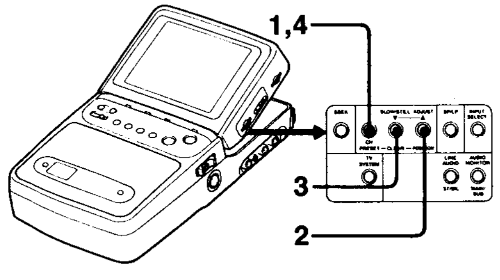
VHF (E2-E4) · CATV (S01-S10) · VHF (E5-E12) · CATV (S11-S20) · UHF (E21-E69)

* After the channel range is displayed, wait for about 2 seconds before next operation.

To change the order of the channel to be stored
Follow the above steps.

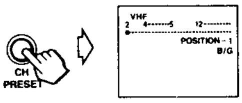
To Erase Channels

The erased programme position is skipped when you press the PROGRAM + / – button.

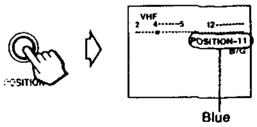


Example: To erase programme position 11

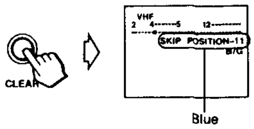
1 Press the CH PRESET button.


CH PRESET
VHF
2 4------5 12--------
POSITION - 1
B/G

2 Press the POSITION button and select the programme position to be erased.

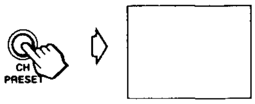

POSITION
VHF
2 4------5 12--------
POSITION-11
B/G
Blue

3 Press the CLEAR button.
The SKIP indication appears.


CLEAR
VHF
2 4------5 12--------
SKIP POSITION-11
B/G
Blue

Repeat steps 2 and 3 for other programme position to be erased.

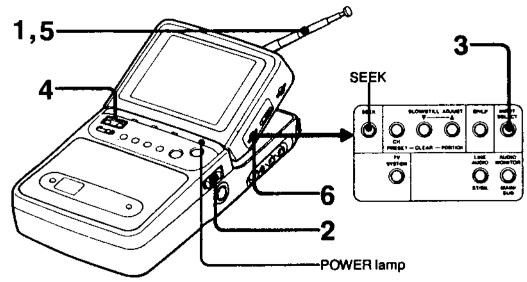
4 Press the CH PRESET button.
The on-screen display disappears.



To add the erased channels again
See "To Preset Channels" on page 22.

Note
Once you have pressed the CLEAR button to display the SKIP indication, make sure it remains displayed until the operation is completed. The indication may disappear depending on the reception condition. If this happens, press the CLEAR button once more to display the indication again.

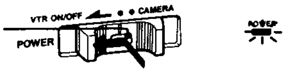
Watching TV Programmes


1,5
4
3
SEEK
6
2
POWER lamp

1 Pull out the aerial fully.
Be sure to pull out the base of the aerial.
If you have connected an external aerial or CATV cable, be sure to fold in the telescopic aerial.

2 Turn the power on.
The POWER lamp lights up.

While pressing the green button, slide the POWER switch to the left.

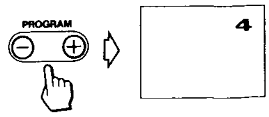

VTR ON/OFF
CAMERA
POWER
POWER

3 If a TV programme is not displayed, press the INPUT SELECT button.
The input mode will change as follows:

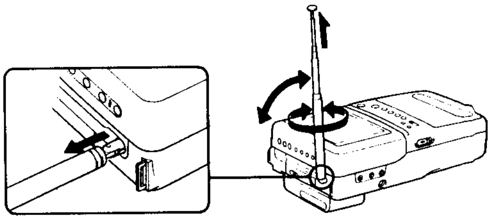
TV programme → LINE
↑ CAMERA ←

INPUT SELECT

4 Select the desired programme.
Press + for higher-numbered programmes and – for lower-numbered programmes. The programmes will appear in numerical sequence. Press PROGRAM + / – repeatedly until you get the desired programme on the screen.



5 Adjust the aerial for the best reception.

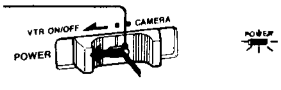


6 Adjust the volume and brightness.

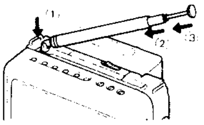
To decrease volume | To increase volume | For less brightness | For more brightness

To turn off the TV

While pressing the green button, slide the POWER switch to the left. The POWER lamp goes out.


VTR ON/OFF
CAMERA
POWER
POWER

To put the aerial away
Slide in the base of the telescopic aerial first, then the center and the point.



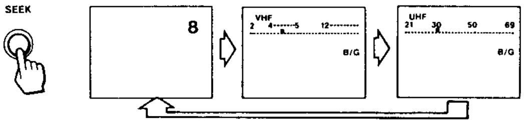
To View a TV Programme Without Presetting Channels

When you do not know the channel number of the TV programme you wish to view or if you want to use the unit in the moving car, search for the programme as follows.

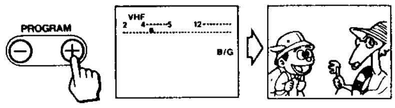
1 Press the SEEK button.
The channel range display appears.
Each time you press the button, the receiving channels changes as follows:

VHF → UHF → normal display

Note
To change the TV system, press the TV system button.



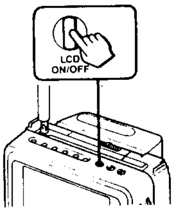
2 Press the PROGRAM + / − buttons to select the channel.



After selecting the channel, the channel range display goes out after a few seconds.

To mute (turn off) the picture

Press LCD ON/OFF button.
The screen will be muted.



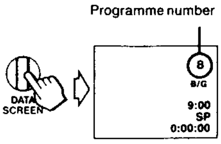
It is recommended to mute the picture when you view the playback picture with another TV or monitor. The picture noise of the TV or monitor is reduced. Battery life will also last longer if you use the unit with the picture turned off. To restore the picture on this unit, press LCD ON/OFF again.

Note
When no picture is displayed and the volume is low, or the earphones are connected, the unit appears to be turned off even though it is not. Be sure to turn off the unit with the POWER switch when it is not in use.

To display the programme number

Press the DATA SCREEN button.

To make the on-screen display disappear, press the DATA SCREEN button again.
After the SEEK button is pressed, the VHF or UHF channel range is displayed instead of the programme number, then goes off after a few seconds.

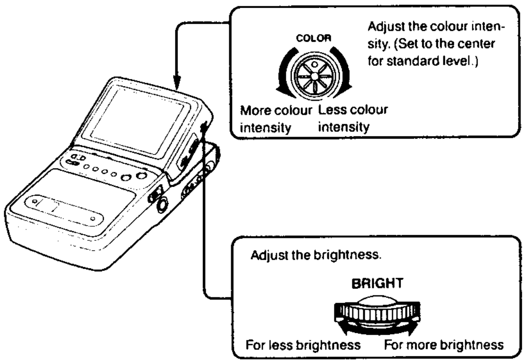


"Last channel" memory function
- While you are watching TV programmes, if the power source is disconnected or the battery pack becomes exhausted, the unit turns off with the last channel being memorized.
  When you turn on the unit again, the last channel appears on the screen.
  The lithium battery must be installed for this function.
- The last channel memory function also works when the TV signal is cut off, for example, when you go through a tunnel in a moving car.
- If the lithium battery becomes exhausted but the power source is connected, the last channel memory function will still operate.

Adjusting the Picture and Sound

Adjust the picture and sound to your preference.

To adjust the picture



To listen to the dynamic bass sound

MEGA BASS function
Used for listening to the sound with the stereo headphones.
Bass sound increases as you set the MEGA BASS switch from NORM to MAX.

MEGA BASS
NORM MID MAX

Using the SLEEP Timer

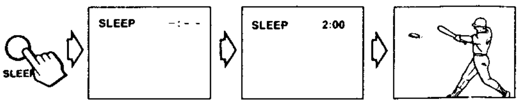
You can set the unit to turn off automatically after a certain amount of time, after as short as 30 minutes or as long as 5 hours, while viewing a TV programme, video playback, or while recording.
Each time you press the SLEEP button, the display will change as follows:

-:-- → 0:30 → 1:00 → 1:30 → 2:00 → 2:30
↑ ↓
5:00 ← 4:30 ← 4:00 ← 3:30 ← 3:00

Example: To turn off the TV after 2 hours

1 Make sure the clock is set correctly (page 18).
No indication will appear on the screen if the clock is not set.

2 Select the desired time interval by pressing the SLEEP button.

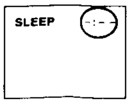


The screen becomes dark.
The normal display will be restored after a few seconds.

The TV will be turned off after 2 hours.
The procedure is the same for tape playback and recording. The tape will stop running after the selected time interval.

To cancel the SLEEP timer

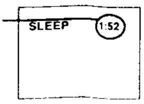
Press the SLEEP button repeatedly until the "-:--" display appears.
The SLEEP timer can also be canceled by turning off the unit with the POWER switch.



To check the remaining time

Press SLEEP once.
The remaining time is displayed.
The indication will go off after a few seconds.

The unit will be turned off after about 1 hour and 52 minutes.

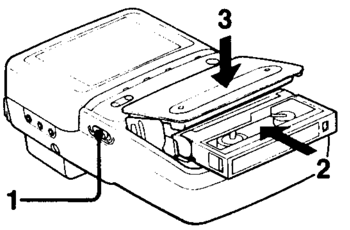


Note
When you use the unit with rechargeable batteries, the unit may turn off before the selected time because the batteries are exhausted.

Using This Unit as a VTR

Inserting a Cassette

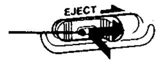
Make sure that the power source is connected to the unit.



To insert a cassette

1 Open the cassette holder with the EJECT button.

While pressing, slide the button to the right.



2 Insert the cassette with the window side facing up.

3 Close the cassette holder.

When you slide the EJECT button, power is supplied and the cassette holder opens even if the power is turned off. When the cassette holder opens, the power goes off automatically. Slide POWER if you want to continue operation.

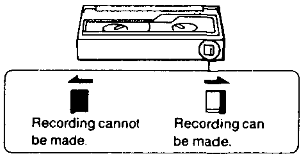
To eject a cassette

Slide the EJECT button. Make sure the tape is not running.

Note
Do not open the cassette holder while the unit is in the vertical position. If you do, the cassette may fall out of the holder and be damaged.

To Prevent Accidental Erasure

When a new recording is made on a previously recorded tape, the previous recording is automatically erased. To protect a recording, slide the red safety tab out to cover the opening.



Notes on opening and closing the cassette holder

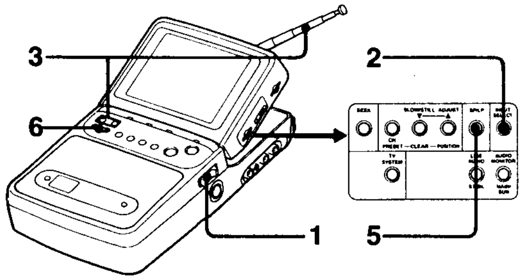
- Do not insert your finger into the cabinet when the cassette holder is open.
- Be careful not to get your finger caught in the cassette holder.

Notes on the cassette

- Store cassettes in their cases when they are not being used and keep them in an upright position to prevent intrusion of dust and uneven winding.
- Always insert the cassette in the correct position.
- Never insert anything in the small holes on the rear of the cassette.
- Remove the cassette from the video TV recorder when not in use.

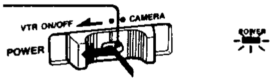
Recording TV Programmes

You can record a TV programme while viewing it. For optimal picture and sound quality, connecting an external aerial is recommended. (See page 45.)



1 Turn the power on.
The POWER lamp lights up.

While pressing the green button, slide the POWER switch to the left.



2 If the TV programme is not displayed, press the INPUT SELECT button.

The input mode will change as follows:

TV programme → LINE
↑ CAMERA ←

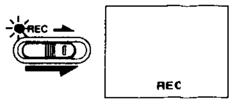
INPUT SELECT

3 Select the desired TV channel. (See page 27.)
Adjust the telescopic aerial for the best reception. (See page 27.)

4 Insert the cassette. (See page 32.)

5 Select the recording mode, SP or LP.
The recording time of a cassette in the LP mode is twice as long as that in the SP mode. For better picture and sound quality, set to SP.

6 Slide the REC switch to the right.
Recording starts.



To stop recording for a moment
Press ❚❚.

To resume recording
Press ❚❚ again.
(If the ❚❚ button is not pressed again for about 5 minutes, the pause mode will be released automatically and the unit will stop. This is to protect the video heads.)

To stop recording
Press □.

When the tape is recorded to the end
The tape stops automatically, but the unit is not turned off. If you are not going to continue operation, turn the power off with the POWER switch.

About the recorded sound
The VOL control setting has no effect on the recording level.

Changing the channel during recording

Set the unit in the recording pause mode and then select another channel. You cannot watch another programme while recording.

When recording from the beginning of a tape

Run the video TV recorder for about 15 seconds at the beginning of a cassette before recording. This will prevent missing the starting point or having any previously recorded pictures appear when playing back on another video cassette recorder.

Recording/playback time

Two tape speeds can be selected with the SP/LP selector.
The recording time in the LP mode is twice as long as that in the SP mode. For better picture and sound, recording in the SP mode is recommended. During playback, the mode in which the tape was recorded is selected automatically.

Cassettes and their recording time

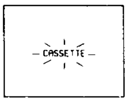
There are two formats for 8mm video recording, PAL and NTSC. Video cassette tapes are made to correspond to one of these formats. Use PAL format cassette tapes for this unit. You will find "P5" on the package of PAL cassettes.
In some countries, however, only NTSC format cassette tapes with "P6" on the packages are available. If a NTSC format cassette is used with this unit, the actual recording time may differ from the recording time indicated on the cassette.

Note
If you record with this unit on a tape that has been recorded in the PCM mode, and if you play back this tape on a VTR with PCM function, the sound may be cut off occasionally. In this case, set the audio monitor switch of the VTR to the standard position.

To stop recording automatically after a certain time — Quick timer

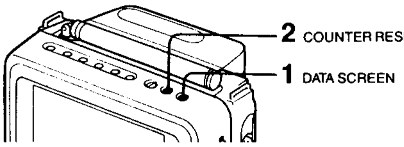
Press the SLEEP button during recording. You can leave the unit function when you go to bed or when you go out, etc.
The unit will be turned off automatically at the preset time. For operation, see page 31.

Are you having trouble?

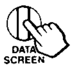
Symptom		Possible cause	Correction
"CASSETTE" indication is displayed when you slide the REC switch.		The safety tab on the cassette is slid out.	Slide the tab in or use a new cassette.
		The tape is at its end.	Rewind the tape or use a new cassette.
		No cassette is inserted.	Insert a cassette.

Using the Tape Counter

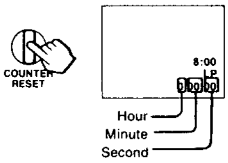
During recording or playback, the digits on the counter indicate the actual recording or playback time.
By noting the counter reading at a particular point, you can easily find that point later by referring to the tape counter.



1 **Press DATA SCREEN so that the counter is displayed.**



2 **During recording or playback, press COUNTER RESET at the point you later want to locate.**
The counter will be set to 0:00:00.



Use the counter to find this point later.

Notes
- The counter reading and the point on the tape may not correspond exactly. Use the counter as a guide.
- There will be a time lag of several seconds on the counter reading after repeated fast-forward and rewind operations.
- There will also be a time lag of several seconds when a tape recorded in both the LP or SP modes or a tape having a blank portion between the recorded portions is played back.

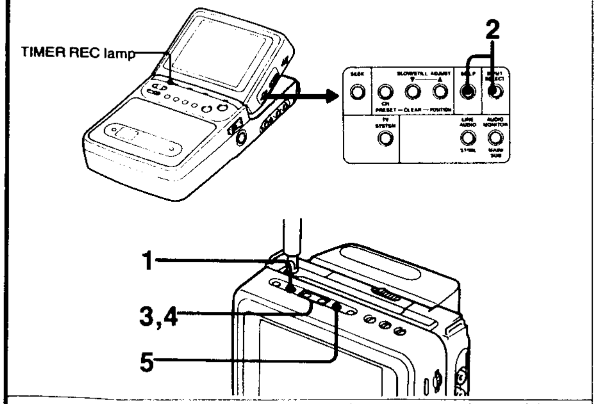
Using the Timer-Activated Recording Feature

By using the timer-activated recording feature, you can programme this unit to automatically record a TV programme that will be shown within 24 hours of activating the timer. For better recording of picture and sound, use of an external antenna is recommended. See page 45.

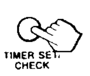
Before setting the timer

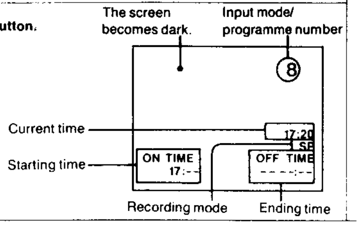
- Make sure that the power is supplied. (Is the battery pack fully charged? For long recording, use of the AC power source is recommended.)
- Set the clock (see page 18.)
- Insert a cassette (see page 32.) Make sure that the safety tab is slid in.

Example: To record the programme from 20:30 to 21:45.

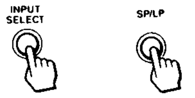


1 **Press the TIMER SET/CHECK button.**



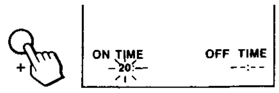


2 **Select the input mode with the INPUT SELECT button, and the recording mode with the SP/LP button.**
For TV programme recording, select the desired channel.

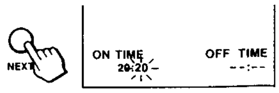


3 **Set the time for the recording to begin.**

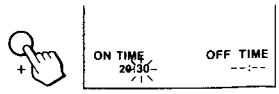
1) Press the + button to set the hour.
Each time you press the + button, the hour indication increases by one. If you keep the button pressed, the indication will increase continuously.



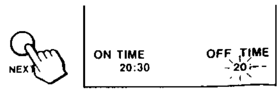
2) Press the NEXT button.



3) Press the + button to set the minutes.
Each time you press the + button, the minutes indication increases by one.
If you keep the button pressed, the indication will increase continuously.

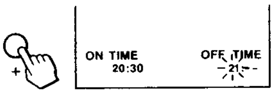


4) Press the NEXT button.
The starting time is now set.

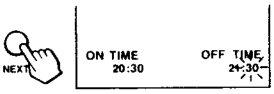


4 Set the time for the recording to stop.

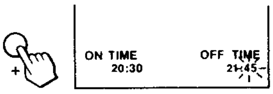
1) Set the hour with the + button.



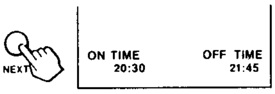
2) Press the NEXT button.



3) Set the minute with the + button.

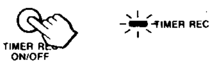


4) Press the NEXT button.
The ending time is now set. The on-screen display disappears.



If you have made a mistake
Turn the power off, then on again. Repeat steps from 1 to 4.

5 Press the TIMER REC ON/OFF button.
The power goes off and the TIMER REC lamp lights up (timer recording standby mode). The recording starts automatically at the preset start time and the power goes off at the preset end time.



Notes

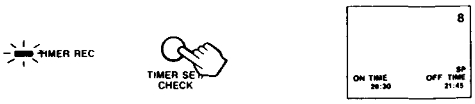
- During timer recording, both picture and sound will be muted. To listen to the sound and watch the picture, press the LCD ON/OFF button.
- When you press the TIMER REC ON/OFF button, the "CASSETTE" indication will appear if the safety tab on the cassette is slid out or if no cassette is inserted.

To stop the timer recording

Press the TIMER REC ON/OFF button again.
The TIMER REC lamp goes out.

To check the setting

Press the TIMER SET/CHECK button while the TIMER REC lamp is lit.
The power is turned on and the starting and ending time is displayed for a few seconds.



To change the timer setting after completing the setting

Press the TIMER REC ON/OFF button to cancel the timer recording mode, then turn the unit on and set the timer again.

To set the timer while the tape is running

Only the starting and ending time can be set during playback or recording. After stopping the tape, set the recording mode (SP/LP) and programme number, and then press the TIMER REC ON/OFF button.

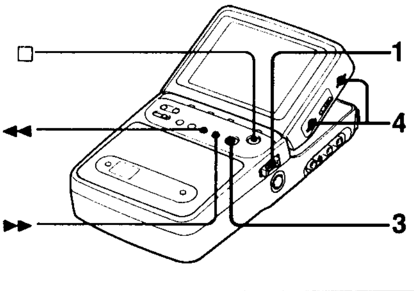
If a power interruption occurs when the unit is connected to the AC power source

Recording stops. Recording starts again after the power is resupplied. When a power interruption occurs during the timer recording standby mode and the power is resupplied, the timer settings will not be affected as long as the lithium battery is installed.

To record to the end of the tape

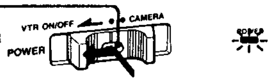
Set the starting and ending time the same. When the tape reaches the end, recording will stop and the power goes off.

Playing Back the Recorded Tapes



1 Turn the power on.
The POWER lamp lights up.

While pressing the green button, slide the POWER switch to the left.



2 Insert a recorded tape (see page 32.)

3 Press ▷ to start playback.

4 Adjust the volume and the brightness.

To decrease volume — To increase volume

For less brightness — For more brightness

To stop playback Press the □ button.
To rewind the tape Press the ◀◀ button.
To advance the tape Press the ▶▶ button.

To rewind the tape and play it back automatically — Auto play

While pressing the ◀◀ button, press the ▷ button.
The "AUTO PLAY" indication appears.

To mute the picture

Press the LCD ON/OFF button. To restore the picture, press the LCD ON/OFF button again.

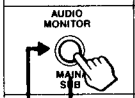
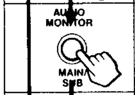
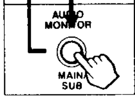
To adjust the picture

Adjust the BRIGHT and COLOR controls (see page 30.)

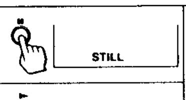
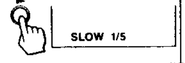
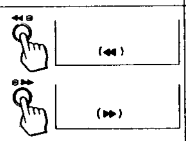
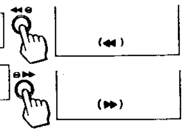
To stop playback at the desired time

Use the SLEEP function.
The unit goes off at the preset time. (see page 31.)

To playback the tape recorded in stereo or bilingual mode

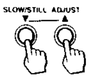
AUDIO MONITOR	Stereo		Bilingual	
	Display	Sound	Display	Sound
	(S)	Stereo (To listen to the stereo sound, use the earphones)	MAIN	MAIN
	(S) L	Left channel	SUB	SUB
	(S) R	Right channel	MAIN+SUB	MAIN+SUB

Various Playback Modes — CRYSTAL-CLEAR still/slow/picture search

To stop the tape for a moment — Still picture	During playback 	To resume normal play-back, press ▷. These modes will be automatically released after the following time intervals: Still: 5 minutes Slow *: 1 minute.
To view the slow playback picture	During playback 	
To locate a particular point while viewing the picture — Picture search	During playback During playback 	When you release the button, the unit will return to the previous mode.
To view the picture at high speed — FR picture search	While rewinding While fast forwarding 	

* After normal playback is resumed, the ‖▶ button will not function for about 5 seconds.

If streaks appear in the still and slow playback mode



Adjust the picture as follows:

1 **Play back the slow motion picture.**
2 **Press the SLOW/STILL ADJUST ▼, ▲ buttons to adjust the picture so that the noise does not appear.**

To adjust the upper portion of the picture, press the ▲ button. To adjust the lower portion of the picture, press the ▼ button. The still picture is adjusted at the same time.

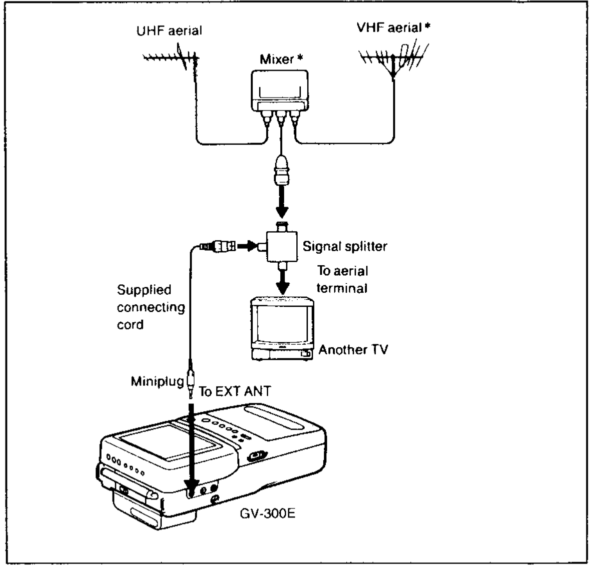
When the playback picture is viewed on another TV or monitor

The horizontal bands appear in the still, slow, picture search and FR picture search modes. Noise appears in the still and slow modes. To reduce the horizontal bands, press LCD ON/OFF button to mute the picture of this unit.

Notes on the CRYSTAL-CLEAR still/slow/picture search on LCD
Noiseless pictures can be viewed in the still, slow and picture search modes, owing to the characteristics of the liquid crystal.

Connecting an Outdoor Aerial

If you cannot obtain satisfactory reception with the telescopic aerial, or when recording TV programmes, use an outdoor aerial.



* The mixer and the VHF aerial are not necessary in the United Kingdom as only UHF is available.

Notes

- Before connecting the aerials, turn off the unit.
- Make connections firmly. A loose connection may cause a distorted picture.
- When using the unit in a car, use a commercially available car aerial, etc. For details, refer to the instruction manual of the car antenna.

Connecting other VTRs or Monitors

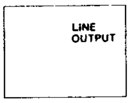
Notes on the VIDEO/AUDIO IN/OUT Jacks

The VIDEO/AUDIO IN/OUT jacks are automatically set to the input or output jacks according to the operating condition of the unit.

Refer to the following diagram:

Mode selected with INPUT SELECT button	Stop or recording mode	Playback mode
TUNER (TV program)	output	output
LINE *	input	output
CAMERA	output	output

* When the LINE mode is selected with INPUT SELECT, the INPUT or OUTPUT indication appears with LINE.

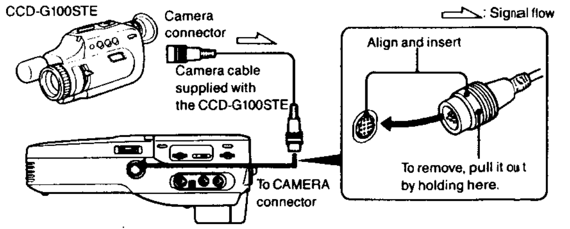


Note
When the LINE OUT jacks of other equipment are connected to the VIDEO/AUDIO IN/OUT jacks on this unit, and signals are output from the jacks of the other equipment to this unit, the picture and sound of the other equipment may be distorted.
In such case, turn off the power of this unit or disconnect the other equipment.

Camera Recording — Controlling from the Camera

By connecting an optional Video Camera CCD-G100STE, stereo recording controlled from the camera is possible. You can hold the camera and keep this unit in a carrying case while recording.
For details, refer to the instruction manual of the video camera.

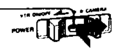
Connection


CCD-G100STE
Camera connector
: Signal flow
Camera cable supplied with the CCD-G100STE
To CAMERA connector
Align and insert
To remove, pull it out by holding here.

- Select the recording mode (SP/LP).

Recording with CCD-G100STE

1 Set the POWER switch of this unit to CAMERA.
While pressing the green button, slide to the right.



2 Insert the cassette

3 Set the STANDBY switch of the camera to STANDBY.
The power of this unit is turned on, and the POWER, STEREO lamp light up. To have the picture on the screen of this unit, press LCD ON/OFF button.

4 Start recording.
Press the START/STOP button of the camera.

To stop recording for a moment
Press the START/STOP button. Press it again to start recording.

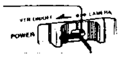
To stop recording
Set the STANDBY switch to LOCK.

For CCD-G100E
Operation is the same as CCD-G100STE. However, since the microphone of the CCD-G100E is monaural, the sound is recorded in monaural although the STEREO lamp of GV-300E lights up.

For CCD-G1E
CCD-G1E can be connected to this unit. However only recording/recording pause mode switching can be controlled on the camera. Power on/off and recording stop can be controlled only on GV-300E. The sound will be recorded in monaural although the STEREO lamp of this unit lights up.

Playing back the newly recorded pictures

1 Turn the power on of this unit.
The POWER lamp lights up.
While pressing the green button, slide to the left.



2 Press ◀◀ button of this unit to rewind the tape.

3 Press | | button of this unit.

4 Press ▷ button of this unit.

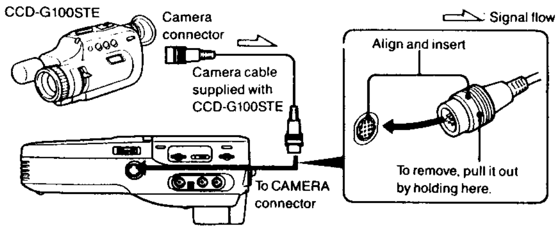
Caution
Do not operate this unit for a long time when it is in a carrying case like the one supplied. Internal heat build-up may occur which can cause this unit to malfunction.

When the POWER switch is set to CAMERA, the operable buttons are:
POWER switch, EJECT button, LCD ON/OFF button, DATA SCREEN button, COUNTER RESET button, and SP/LP button.

Camera Recording — Controlling from This Unit

By connecting the optional video camera CCD-G100STE, it is possible to record with this unit while using the camera in a distant place. For details, refer to the instruction manual of the video camera.

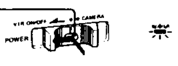
Connection


CCD-G100STE
Camera connector
Camera cable supplied with CCD-G100STE
Signal flow
Align and insert
To remove, pull it out by holding here.
To CAMERA connector

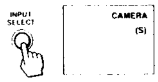
- Select the recording mode (SP/LP)

Recording

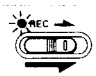
1 Turn the power on of this unit.
The POWER lamp lights up.
While pressing the green button, slide the POWER switch to the left.



2 Press the INPUT SELECT button of this unit to display "CAMERA" on the screen.
The STEREO lamp lights up. The picture to be recorded appears on the screen. If the focus or colour need adjustments, adjust them on the camera. To have the picture disappear, press the LCD ON/OFF button.



3 Slide the REC switch of this unit.
Recording starts.



To stop recording for a moment
Press **II** button of this unit.

To stop recording
Press button of this unit

You can also use the CCD-G100E and CCD-G1E however the sound will be recorded in monaural

Playing back the newly recorded pictures

1 Press ◀◀ button to rewind the tape.

2 Press | | button.

3 Press ▷ button.

Recording with a camera from a distant place

Use the optional pan tilter HVR-200 for camera recording from a distant place, a maximum distance of 5m.

To listen to the sound that is being recorded
While recording, no sound is heard from the speaker. Connect the supplied stereo earphones to PHONES jack to listen to the sound.

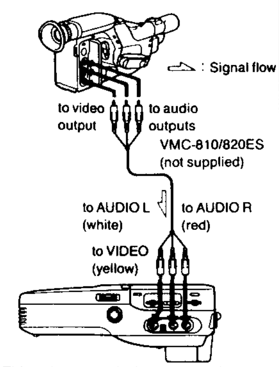
To use a camera with the timer-activated recording feature
This feature allows you to record a desired activity at a designated time, for example, a train passing by at a certain time. To set the timer, see page 38. The recording will start automatically at the time you set.

Using This Unit as a 8mm Video Camera Recorder Monitor

With the following connection, you can view pictures being recorded by the connected video camera recorder. Also you can view the playback pictures from the video camera recorder on this unit.

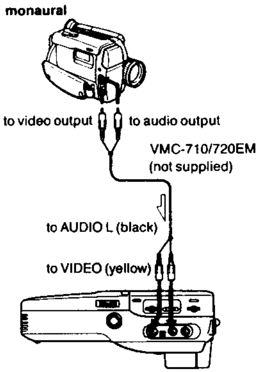
Connection

If the video camera recorder is stereo


: Signal flow
to video output
to audio outputs
VMC-810/820ES (not supplied)
to AUDIO L (white)
to AUDIO R (red)
to VIDEO (yellow)

This unit operates in the stereo mode automatically.

If the video camera recorder is monaural


to video output
to audio output
VMC-710/720EM (not supplied)
to AUDIO L (black)
to VIDEO (yellow)

This unit operates in the monaural mode automatically.

Operation

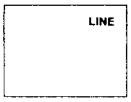
1 Turn the power on.
The POWER lamp lights up.

While pressing the green button, slide the POWER switch to the left.

VTR ON/OFF
CAMERA
POWER

2 Press the INPUT SELECT button to display "LINE" on the screen.

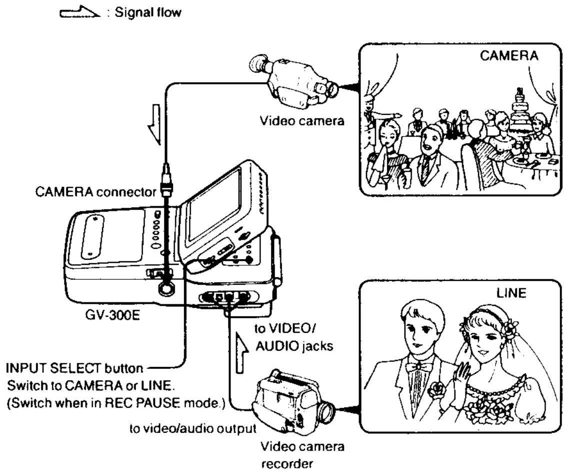
INPUT SELECT



3 Operate the video camera recorder.

When connecting both a video camera recorder and a video camera

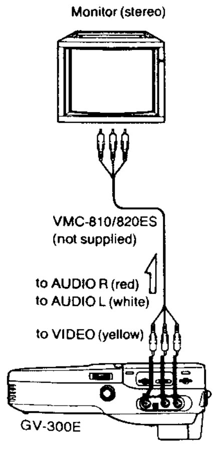
Set each unit to different angles, then, using the INPUT SELECT button, switch the picture to be recorded on this unit.

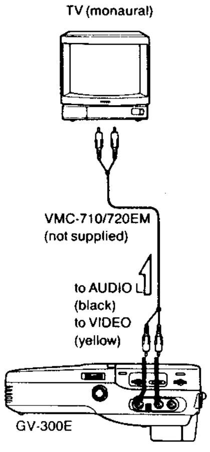

: Signal flow
CAMERA
Video camera
CAMERA connector
GV-300E
LINE
to VIDEO/AUDIO jacks
INPUT SELECT button
Switch to CAMERA or LINE.
(Switch when in REC PAUSE mode.)
to video/audio output
Video camera recorder

To Connect Another TV or Colour Monitor

If you connect this unit to another TV or colour monitor, you can view the playback pictures or the selected TV program on a larger screen and listen to the dynamic sound.
In this case, mute the picture of GV-300E by pressing the LCD ON/OFF button to reduce horizontal bands and noise in the picture of the TV or color monitor during various playback modes.

To connect a TV/monitor with video and audio inputs


Monitor (stereo)
VMC-810/820ES (not supplied)
to AUDIO R (red)
to AUDIO L (white)
to VIDEO (yellow)
GV-300E

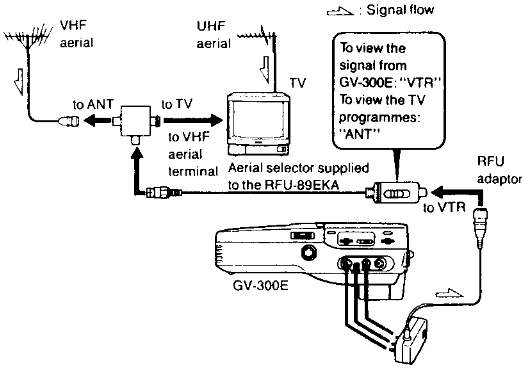

TV (monaural)
VMC-710/720EM (not supplied)
to AUDIO L (black)
to VIDEO (yellow)
GV-300E

: Signal flow

Note
When connecting only to the AUDIO L jack, the L and R sounds are automatically mixed and always output is monaural

To connect a TV without video and audio inputs

Use the RFU-89EKA RFU kit (not supplied).


: Signal flow
VHF aerial
UHF aerial
TV
to ANT
to TV
to VHF aerial terminal
To view the signal from GV-300E: "VTR"
To view the TV programmes: "ANT"
Aerial selector supplied to the RFU-89EKA
RFU adaptor
to VTR
GV-300E

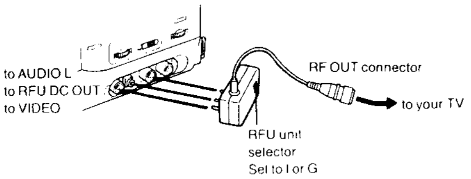
Note on the RFU-89EKA RFU kit

The RFU-89EKA includes the following accessories:
— RFU adaptor (1)
— Aerial selector (1)

Channel for VTR

To view the playback picture of this unit, set the RFU unit selector of the RFU adaptor according to the TV system of your country, then turn on the TV and select a programme position that is not used to receive a TV station

To connect the RFU adaptor

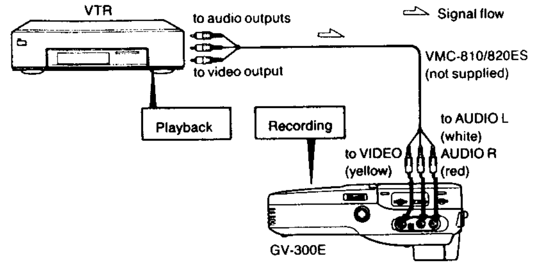

to AUDIO L
to RFU DC OUT
to VIDEO
RF OUT connector
to your TV
RFU unit selector
Set to I or G

Editing Tapes

You can edit tapes by connecting another VTR (8mm, Beta or VHS format) with video/audio input.

To Edit from Another VTR to This Unit

Connection


VTR
to audio outputs
to video output
Signal flow
VMC-810/820ES
(not supplied)
Playback
Recording
to VIDEO
(yellow)
to AUDIO L
(white)
AUDIO R
(red)
GV-300E

If the VTR to be connected has a monaural audio output only, use a commercially available connecting cord such as the VMC-710/720EM. In this case, connect to the AUDIO L and VIDEO jacks.

Operation

1 **Turn the power on.**
The POWER lamp lights up.

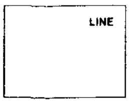
While pressing green button, slide the POWER switch to the left.

VTR (MINI)
CAMERA
POWER

2 **Insert the cassette.**

3 **Press the INPUT SELECT button so that the "LINE" indication appears.**

INPUT SELECT



4 **Select the recording mode (SP/LP) by pressing the SP/LP button.**

5 **For playing back stereo or bilingual recorded tape, select the desired mode with the LINE AUDIO button. ***

6 **Play back the tape on another VTR and press the ▮▮ (PAUSE) button at the point you want to start playing back.**

7 **Set this unit in the recording pause mode.**

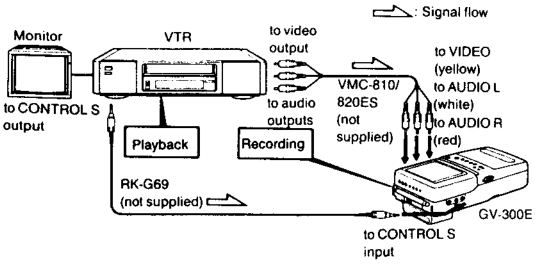
8 **Release the ▮▮ (PAUSE) buttons on both units.**

9 **After editing is completed, press the ■ (STOP) buttons on both units to stop recording.**

* The signal is recorded in the selected mode. When playing back the recorded tape, the mode is selected automatically.

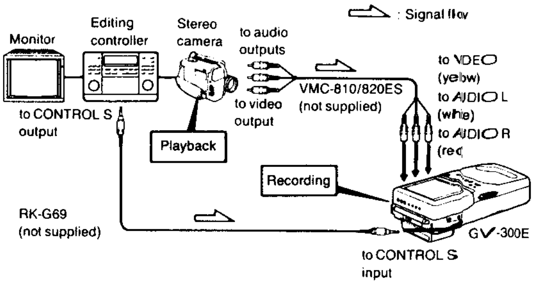
To edit from the VTR equipped with the CONTROL S output

Connect the CONTROL S input jack on this unit and the CONTROL S output jack on the other equipment.
Playback/pause on the other VTR and recording/pause on this unit can be operated simultaneously.


: Signal flow
Monitor
VTR
to video output
to VIDEO
(yellow)
VMC-810/820ES
(not supplied)
to AUDIO L
(white)
to audio outputs
to AUDIO R
(red)
to CONTROL S output
Playback
Recording
RK-G69
(not supplied)
GV-300E
to CONTROL S input

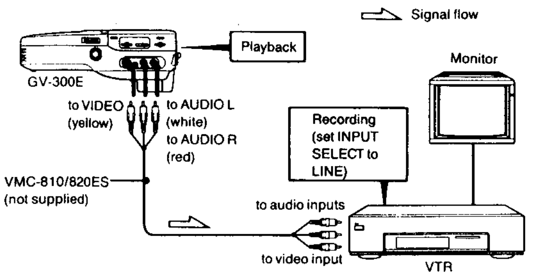
To edit with the editing controller

By connecting the editing controller, the recorder and player can be operated easily with the controller.


: Signal flow
Monitor
Editing controller
Stereo camera
to audio outputs
to VIDEO
(yellow)
VMC-810/820ES
(not supplied)
to AUDIO L
(white)
to video output
to AUDIO R
(red)
to CONTROL S output
Playback
Recording
RK-G69
(not supplied)
GV-300E
to CONTROL S input

Note on an optional wireless remote control kit
When the receiver of the wireless remote control kit is connected to the CONTROL S jack on this unit, it can be controlled remotely. This set up makes it convenient to use this unit as the tuner of a color monitor.
When the unit is not in use, remove the receiver. If the receiver remains connected a very small amount of electric current flows.
For details, please read the instruction manual of the wireless remote control kit.

To Edit from This Unit to Another VTR



If the VTR to be connected has a monaural audio input only, use a commercially available connecting cord such as VMC-710/720EM. In this case, connect to the AUDIO L and VIDEO jacks.

To edit the tape recorded in bilingual mode
Select the output signal with the AUDIO MONITOR button. The signal is selected as follows:

	L output	R output	On-screen display
AUDIO MONITOR	MAIN	MAIN	MAIN
AUDIO MONITOR	SUB	SUB	SUB
AUDIO MONITOR	MAIN	SUB	MAIN+SUB

When only connected to L output (monaural)

	L output
AUDIO MONITOR	MAIN
AUDIO MONITOR	SUB
AUDIO MONITOR	MAIN+SUB

Precautions

Operation

- Operate the unit on 6.0 V (battery pack)/7.5 V (AC power adaptor)/6.5 V (DC pack DCP-77).
- For DC or AC operation, use the accessories supplied or recommended in this manual.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Avoid rough handling or mechanical shock to the unit.
- Do not apply excessive force to the LCD.
- Remove and store video cassettes after recording or playback.
- Do not wrap up the unit and operate it because heat may build up internally.
- Avoid using and storing the recorder in the following locations:
  - — Locations susceptible to vibration
  - — Locations exposed to strong magnetic fields
  - — Locations near TV or radio transmitters where strong radio waves are generated
- Do not place the unit on the sand.

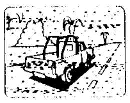
Care

- When the unit is not used for a long period of time, periodically turn on the power, operate the recorder and play back a tape for about three minutes.
- Clean the recorder body with a dry, soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.

Maintenance

Video Head Cleaning

To ensure a clear picture, clean the video heads periodically.
If playback pictures are noisy or hardly visible, the video heads may be contaminated. In this case, clean the video heads with the Sony V8-25CLH cleaning cassette (not supplied) according to the instructions.



Caution
Do not use commercially available wet-type cleaning cassettes. They may damage the video heads.

Note
If the V8-25CLH cleaning cassette is not available in your area, consult your Sony service facility.

If the Video Head is Damaged

When playback pictures are not clear even after using the cleaning cassette, the video head may be damaged. In this case, the video head needs to be replaced with a new one. Consult your Sony service facility for replacing the video head.

Note on the built-in lighting system

A built-in lighting system is assembled inside the liquid crystal screen of this unit. The life of the small fluorescent tube used for this built-in lighting system runs out over a period of use. If the lamp becomes dimmer or goes off immediately after you turn it on, even with new batteries, replace the lamp with a new one. To replace the lamp, consult the dealer where you purchased the unit, or a Sony service facility. The expected life of the small fluorescent tube is about three years if this unit is used for an hour each day. When you use this unit in a cold environment, the fluorescent tube will be dimmer at first. As soon as the temperature of the tube rises, it will regain its original brightness.

Note on the LCD

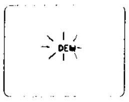
- Do not push the display forcibly.
- Do not operate the unit where the temperature is below 0°C (32°F) or above 40°C(104°F).
- If the unit is used in a cold place, a residual image may appear on the screen. This is not a malfunction of the unit.
- Constant bright points of light (red, blue, or green) may appear on the screen. This is not a malfunction of the unit.

Notes on Moisture Condensation

If this unit is brought directly from a cold place to a warm place, moisture may condense inside the unit or on the surface of the tape. If this happens, the tape may stick to the head drum, damaging both the tape and the unit. Although this unit is furnished with a moisture sensor to prevent possible damage from condensation, do not leave the tape inside the unit.

If moisture condenses inside the unit

The "DEW" indication appears on the screen.
In this case, no button will function except the EJECT button. (However, if you have been watching a TV program, you can continue to do so.)
Eject the cassette, turn off the unit and leave the cassette holder open at least for an hour.



The unit can be used again if the DEW indication does not appear when one of the tape transport buttons is pressed.

Using Your Video TV Recorder Abroad

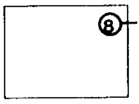
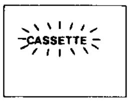
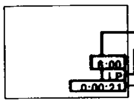
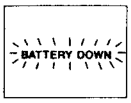
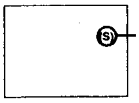
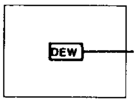
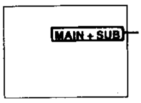
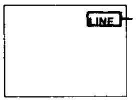
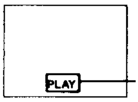
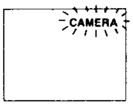
If you prepare fully charged battery packs and the supplied AC power adaptor (which can be used in all areas with a local power supply of 100 V-240 V), you can use your recorder in any country.

Each country has special TV color broadcast and electricity systems. This unit is designed to record and play back using the PAL colour video signals. Recording and playback of video sources based on other color systems cannot be guaranteed.

PAL system countries:
Australia, Austria, Belgium, China, Denmark, Finland, Great Britain, Holland, Hong Kong, Italy, Kuwait, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, West Germany, etc.

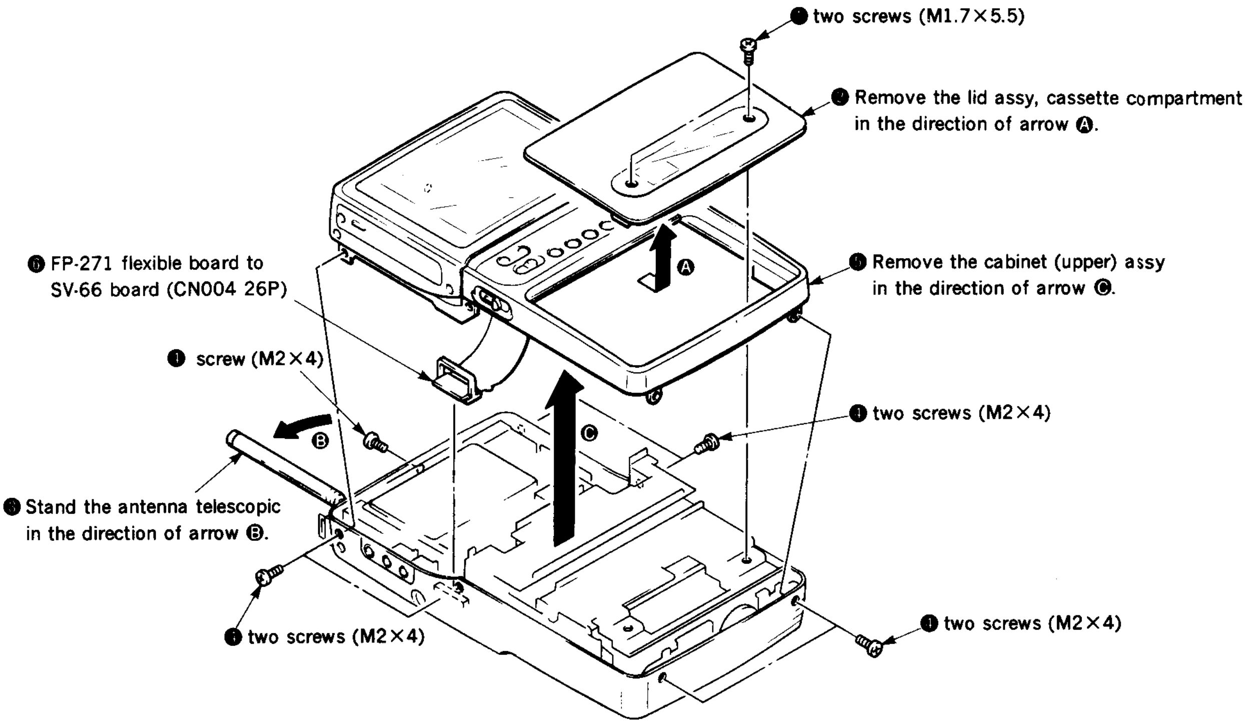
List of On-Screen Displays

The following indications appear on the screen indicating the operation condition and cautions.

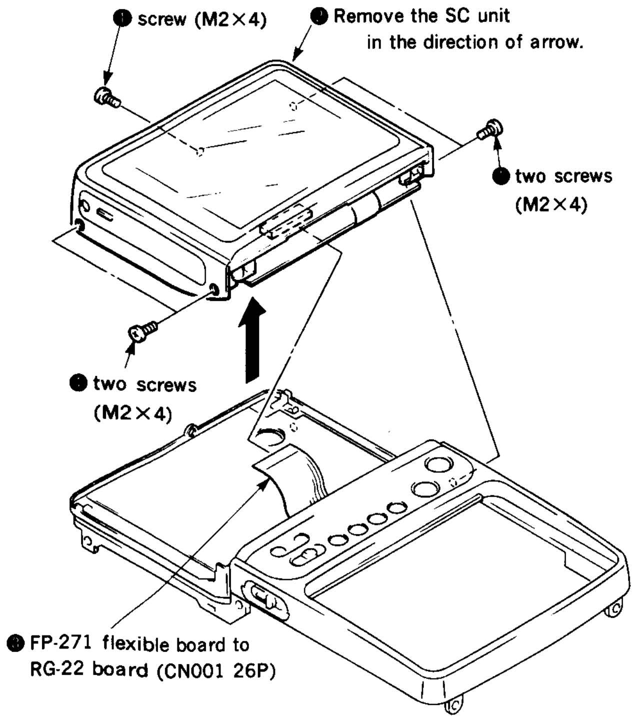
Indication	Meaning (reference page)	Indication	Meaning
	Programme number (page 27)		Caution for the cassette (page 36)
	Current time Recording mode (page 35) Counter (page 37)		Battery is exhausted (page 14)
	Stereo (page 43)		Moisture condensation (page 63)
	Bilingual (page 43)		Input from VIDEO/AUDIO jacks (page 46)
	Tape transport operation (page 42 ~ 44)		Input from CAMERA connector (page 50)

SECTION 2
DISASSEMBLY

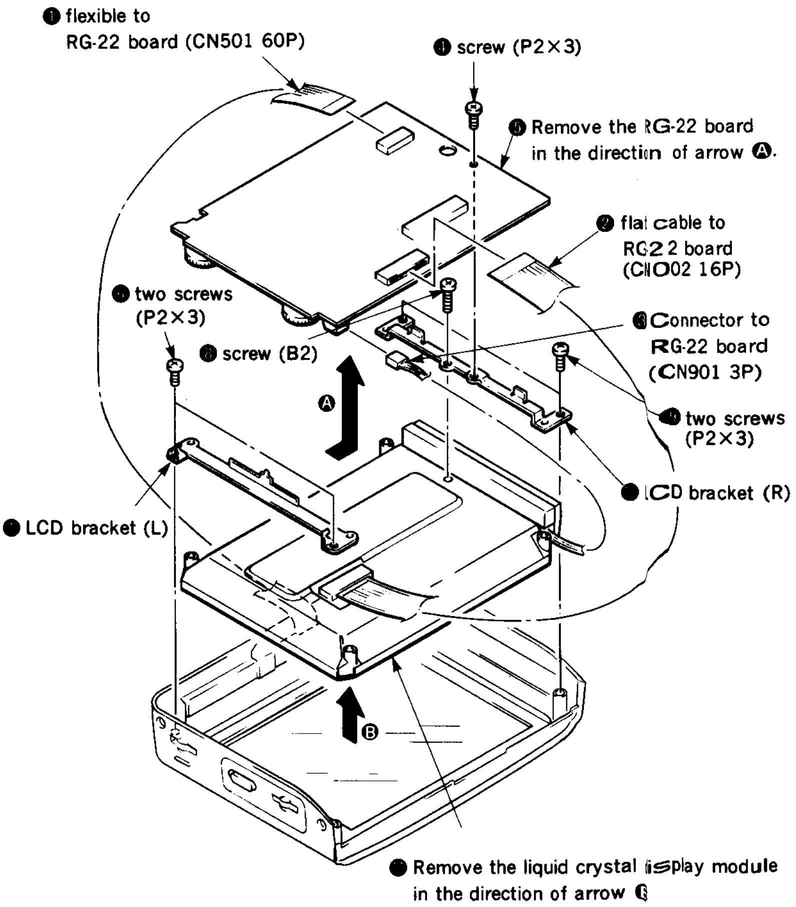
2-1. REMOVAL OF CABINET (UPPER) ASSY


● two screws (M1.7×5.5)
● Remove the lid assy, cassette compartment in the direction of arrow Ⓐ.
❻ FP-271 flexible board to SV-66 board (CN004 26P)
● Remove the cabinet (upper) assy in the direction of arrow Ⓒ.
❶ screw (M2×4)
● two screws (M2×4)
Ⓐ
Ⓑ
Ⓒ
● Stand the antenna telescopic in the direction of arrow Ⓑ.
● two screws (M2×4)
● two screws (M2×4)

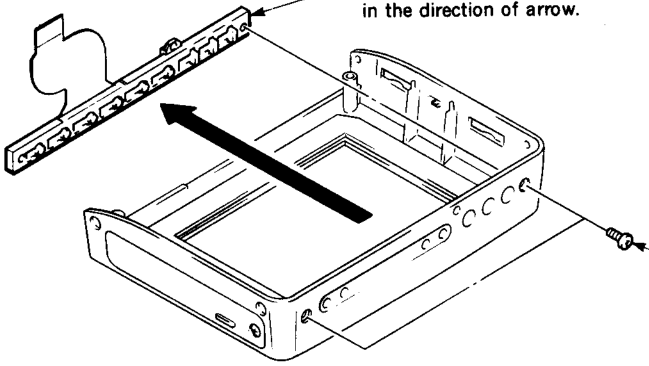
2-2. REMOVAL OF SC UNIT


● screw (M2×4)
● Remove the SC unit in the direction of arrow.
● two screws (M2×4)
● two screws (M2×4)
● FP-271 flexible board to RG-22 board (CN001 26P)

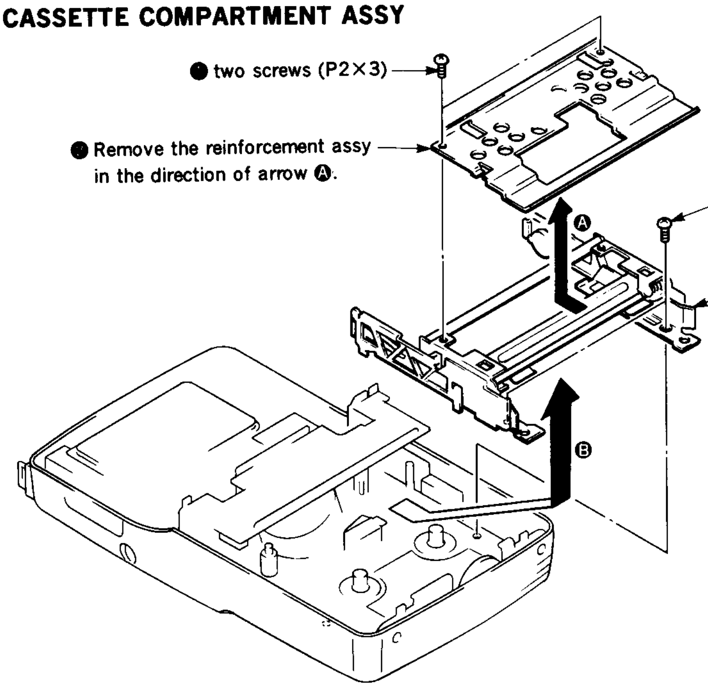
2-3. REMOVAL OF LIQUID CRYSTAL DISPLAY MODULE


❶ flexible to RG-22 board (CN501 60P)
● screw (P2×3)
● Remove the RG-22 board in the direction of arrow Ⓐ.
❷ flat cable to RG-22 board (CN002 16P)
● two screws (P2×3)
● screw (B2)
● Connector to RG-22 board (CN901 3P)
● two screws (P2×3)
Ⓐ
● LCD bracket (R)
● LCD bracket (L)
Ⓑ
● Remove the liquid crystal display module in the direction of arrow Ⓑ

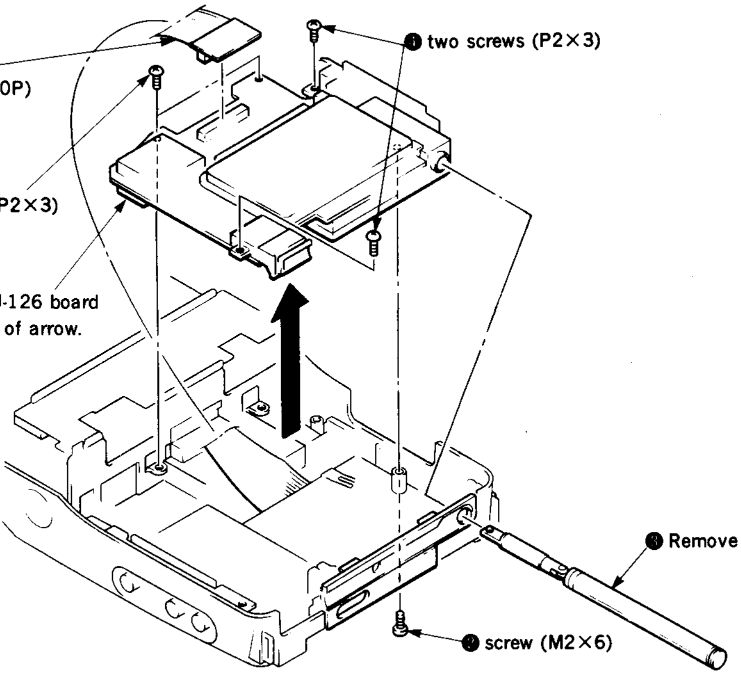
2-4. REMOVAL OF CONTROL SWITCH BLOCK


❷ Remove the switch block, control in the direction of arrow.
❶ two screws (M2×4)

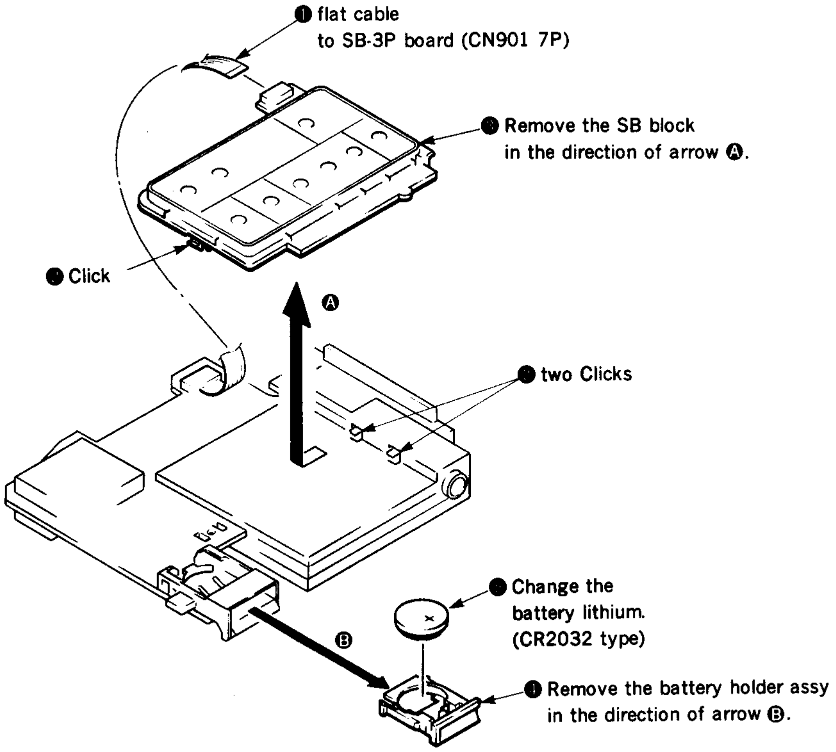
2-5. REMOVAL OF CASSETTE COMPARTMENT ASSY


❶ two screws (P2×3)
❷ Remove the reinforcement assy in the direction of arrow Ⓐ.
❸ two screws (P2×3)
❹ Remove the cassette compartment assy in the direction of arrow Ⓑ.
Ⓐ
Ⓑ

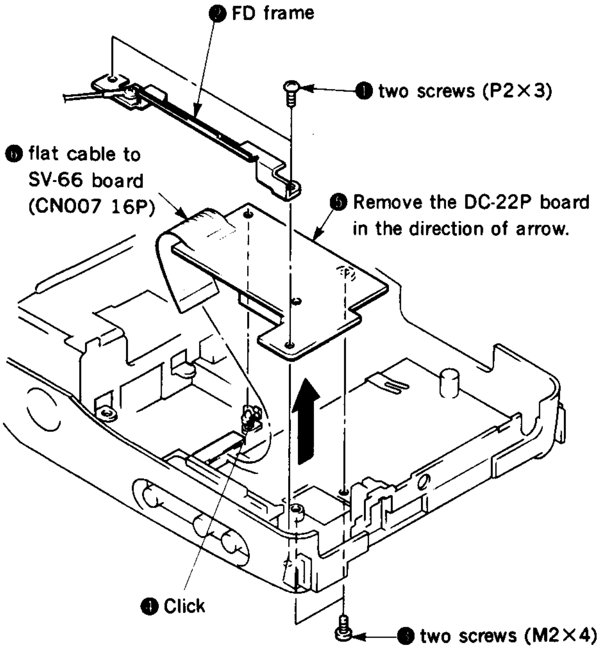
2-6. REMOVAL OF TU-126 BOARD


❸ flexible board to TU-126 board (CN001 30P)
❹ two screws (P2×3)
❹ two screws (P2×3)
❺ Remove the TU-126 board in the direction of arrow.
❷ Remove the antenna telescopic
❶ screw (M2×6)

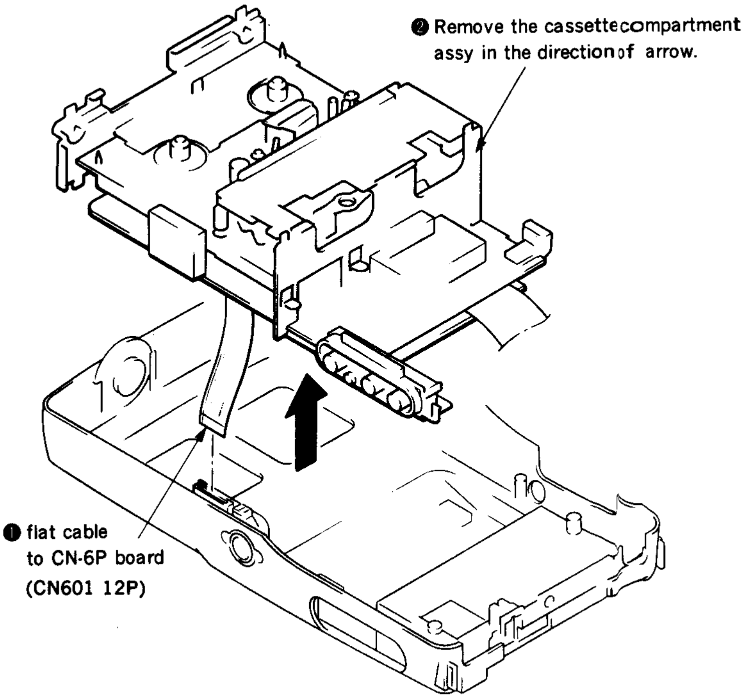
2-7. REMOVAL OF SB BLOCK AND LITHIUM BATTERY


❶ flat cable
to SB-3P board (CN901 7P)
❹ Remove the SB block
in the direction of arrow Ⓐ.
❷ Click
Ⓐ
❸ two Clicks
❻ Change the
battery lithium.
(CR2032 type)
Ⓑ
❺ Remove the battery holder assy
in the direction of arrow Ⓑ.

2-8. REMOVAL OF DC-22P BOARD


❷ FD frame
❶ two screws (P2×3)
❻ flat cable to
SV-66 board
(CN007 16P)
❺ Remove the DC-22P board
in the direction of arrow.
❹ Click
❸ two screws (M2×4)

2-9. REMOVAL OF MECHANISM DECK


❷ Remove the cassette compartment
assy in the direction of arrow.
❶ flat cable
to CN-6P board
(CN601 12P)

2-10. INTERNAL VIEWS

— UPPER —

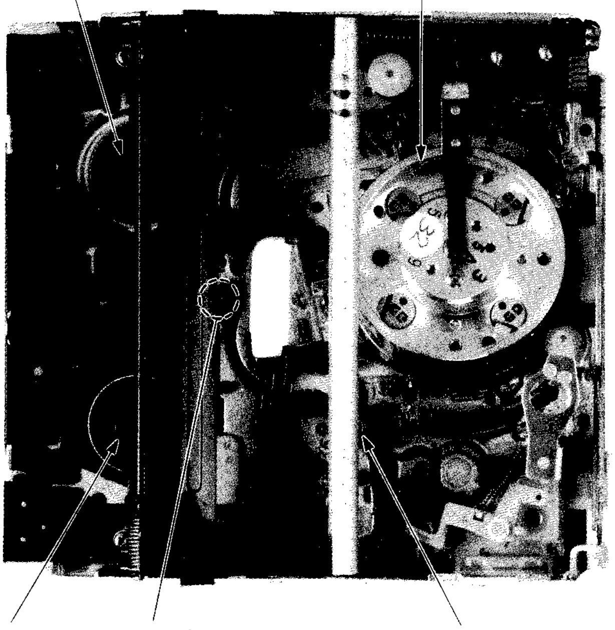


Table assy, reel, supply
X-3728-851-1

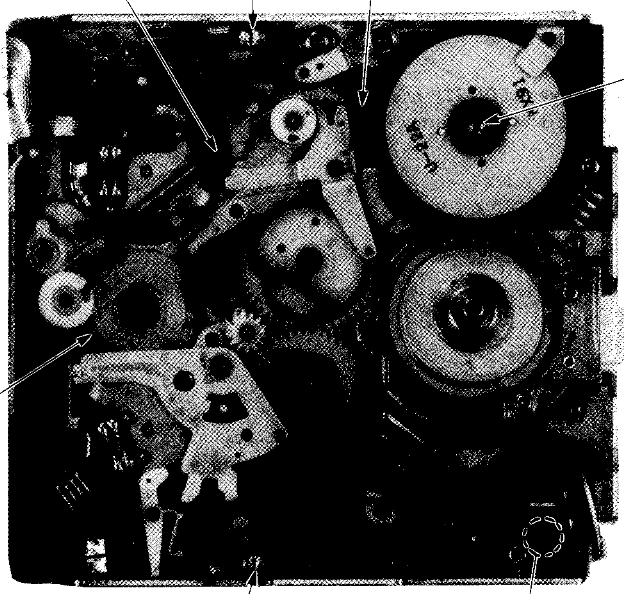
(DGU-61A-R) Drum Assy	A-7048-432-A
(DGR-61-R) Drum Upper	A-7049-360-A

Table assy, reel, take-up
X-3728-855-1

Tape top/Tape end LED
(GL-452S)
8-719-940-81

ARM block assy, pinch
A-7040-219-A

— LOWER —



Tape top sensor (EE-TP109)
8-729-906-48

Belt (L), timing
3-741-197-01

Belt (S), timing
3-728-866-11

Capstan motor (M902)
8-835-331-01

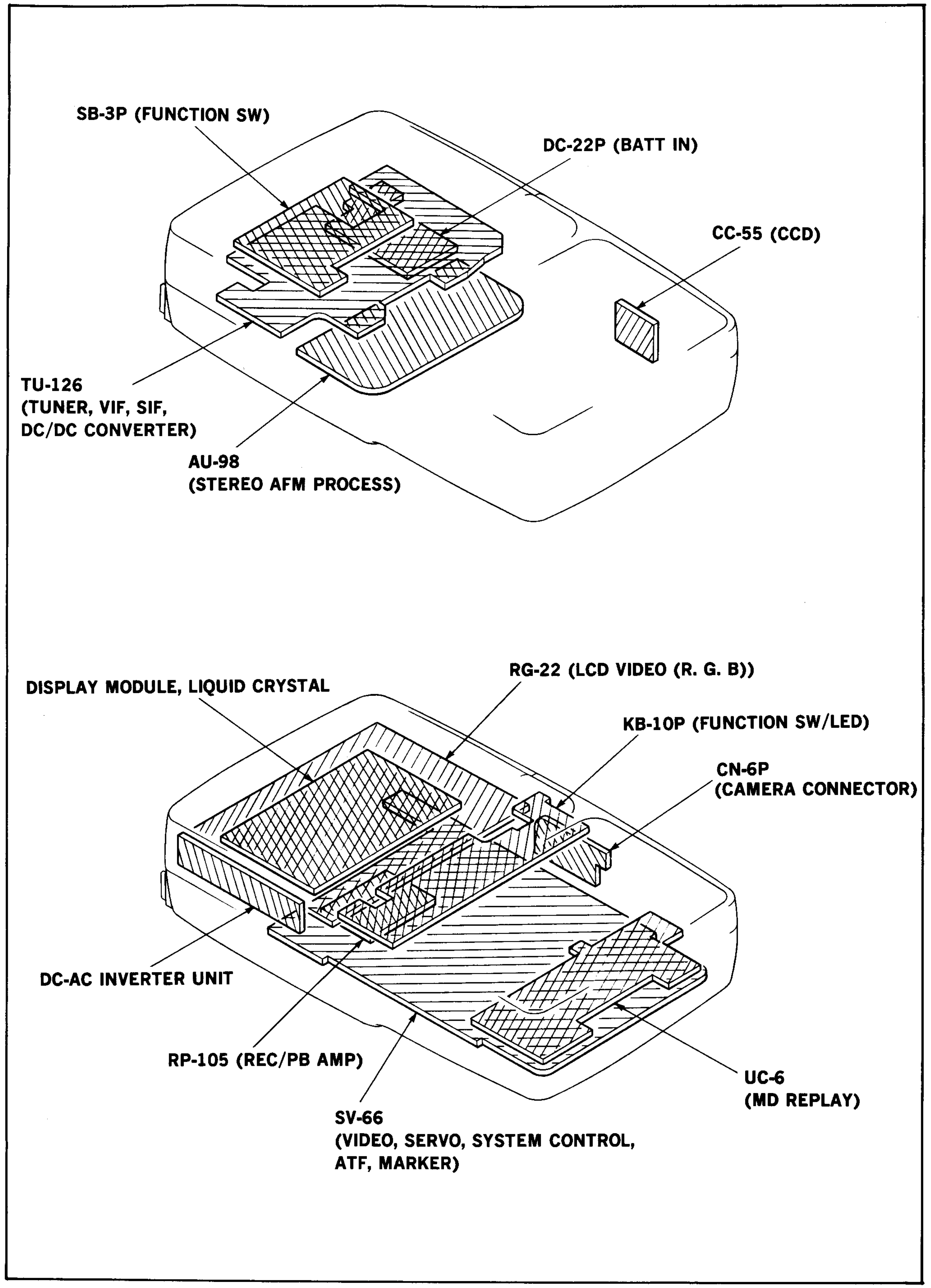
Gear assy, RK
X-3728-866-1

Tape top sensor (EE-TP109)
8-729-906-48

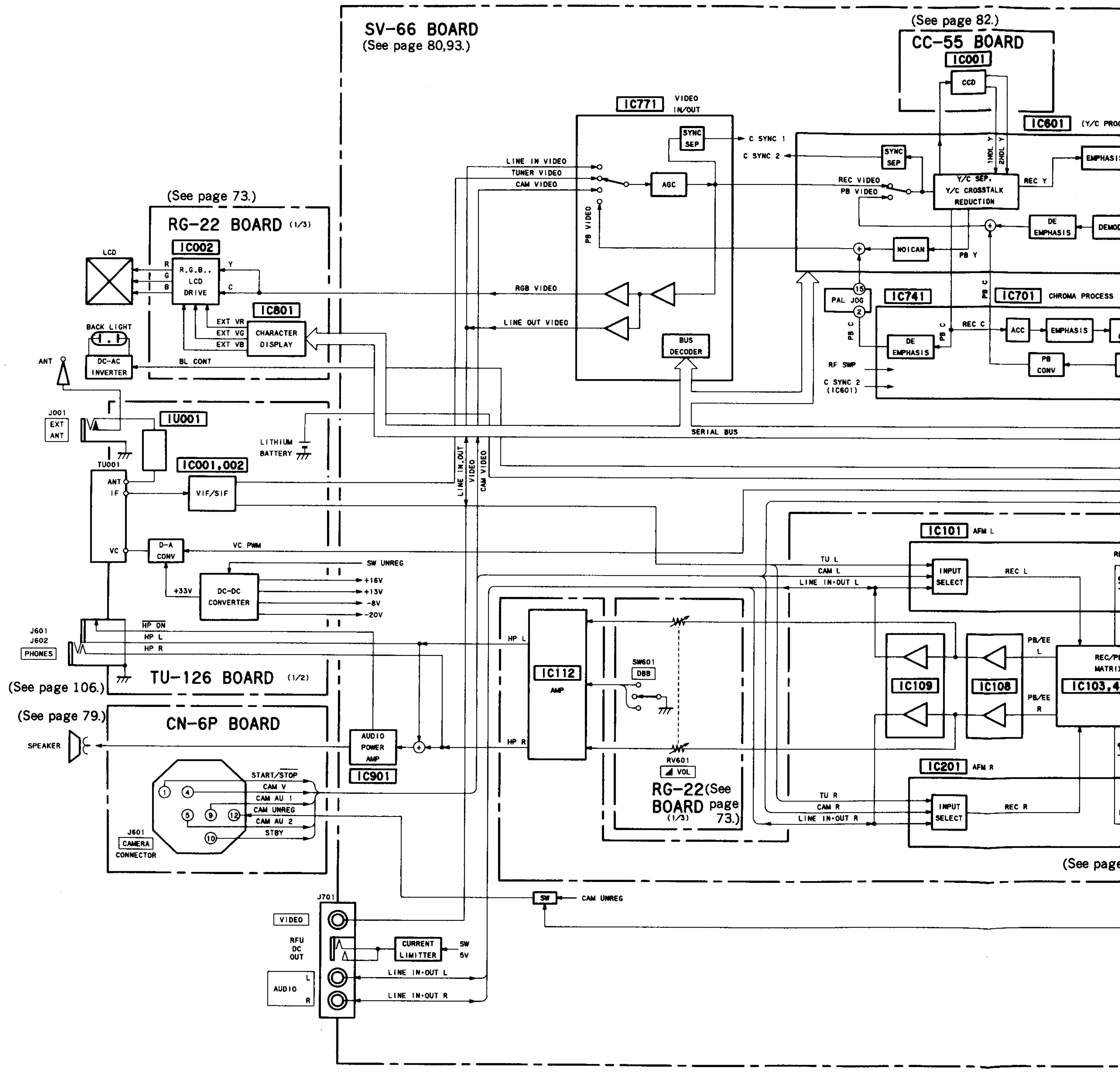
Loading motor assy (M903)
A-7040-208-A

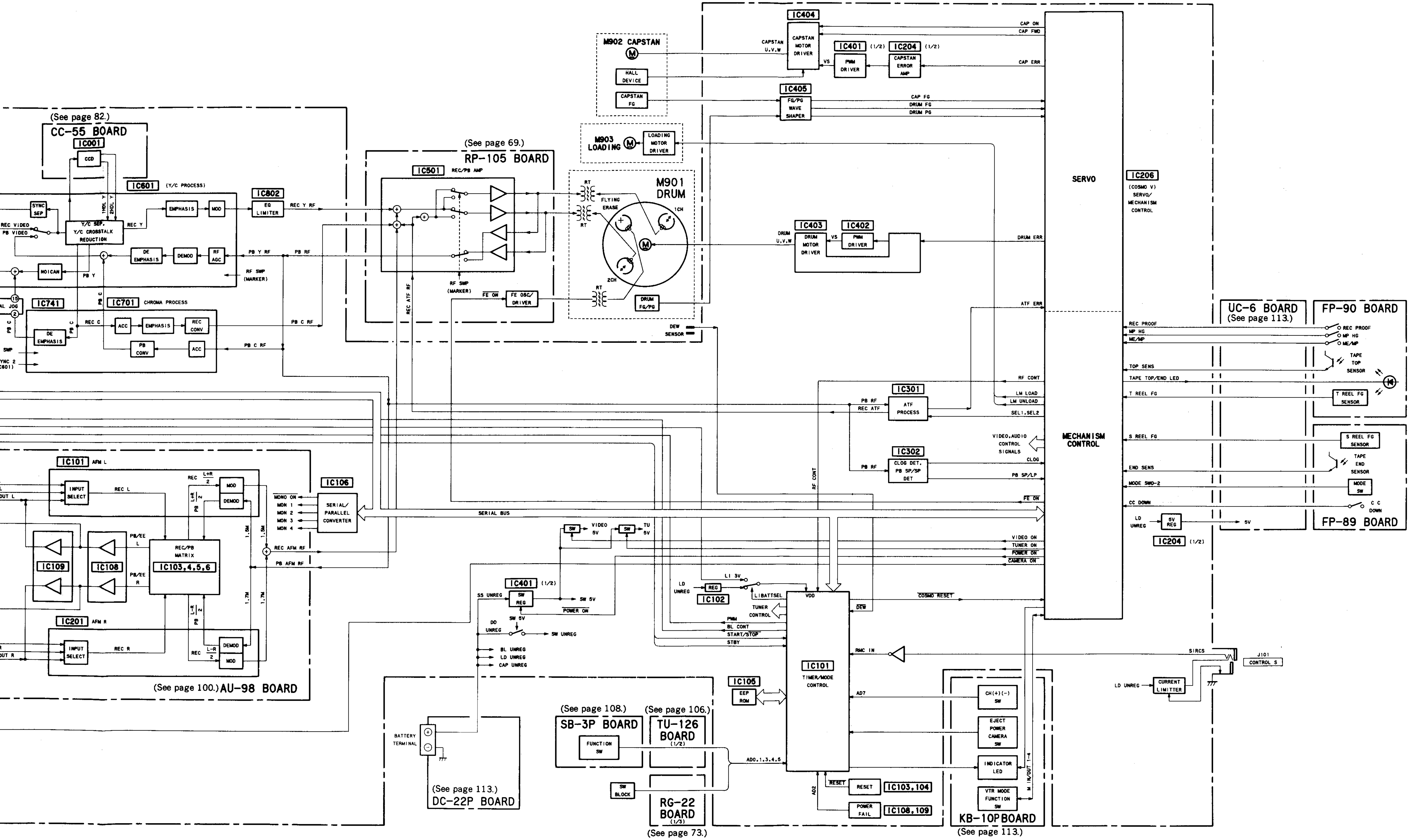
SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

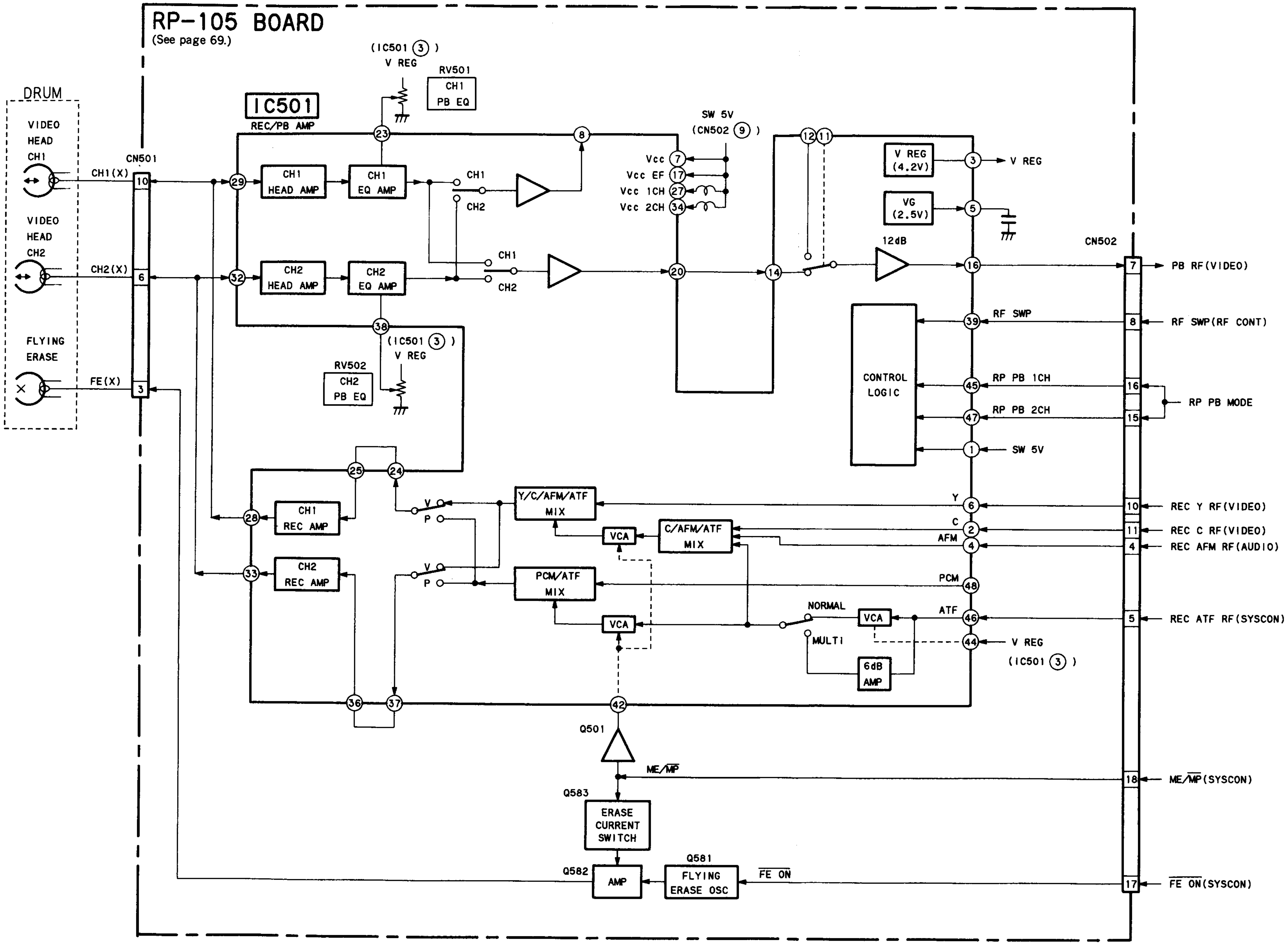

SB-3P (FUNCTION SW)
DC-22P (BATT IN)
CC-55 (CCD)
TU-126 (TUNER, VIF, SIF, DC/DC CONVERTER)
AU-98 (STEREO AFM PROCESS)
DISPLAY MODULE, LIQUID CRYSTAL
RG-22 (LCD VIDEO (R. G. B))
KB-10P (FUNCTION SW/LED)
CN-6P (CAMERA CONNECTOR)
DC-AC INVERTER UNIT
RP-105 (REC/PB AMP)
UC-6 (MD REPLAY)
SV-66 (VIDEO, SERVO, SYSTEM CONTROL, ATF, MARKER)

3-2. OVERALL BLOCK DIAGRAM

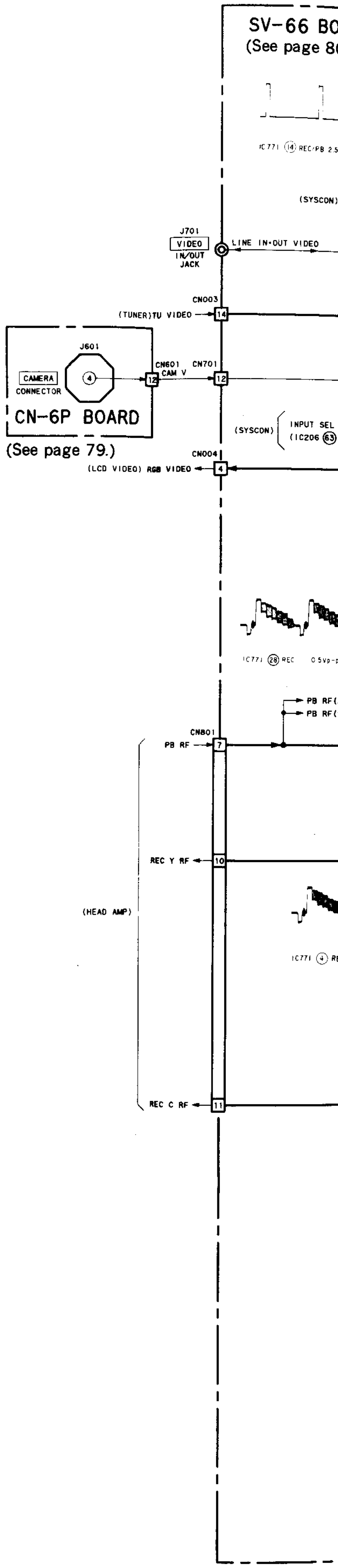

SV-66 BOARD
(See page 80,93.)
(See page 82.)
CC-55 BOARD
IC001
CCD
IC771
VIDEO IN/OUT
SYNC SEP
C SYNC 1
C SYNC 2
LINE IN VIDEO
TUNER VIDEO
CAM VIDEO
PB VIDEO
AGC
RGB VIDEO
LINE OUT VIDEO
BUS DECODER
SERIAL BUS
IC601
REC VIDEO
PB VIDEO
1HDL Y
2HDL Y
Y/C SEP, Y/C CROSSTALK REDUCTION
REC Y
EMPHASIS
DE EMPHASIS
NOICAN
PB Y
PB C
PAL JOG
15
2
IC741
IC701
CHROMA PROCESS
REC C
ACC
EMPHASIS
PB CONV
DE EMPHASIS
RF SWP
C SYNC 2 (IC601)
(See page 73.)
RG-22 BOARD (1/3)
IC002
LCD
R
G
B
R.G.B., LCD DRIVE
Y
C
IC801
EXT VR
EXT VG
EXT VB
CHARACTER DISPLAY
BACK LIGHT
DC-AC INVERTER
BL CONT
ANT
J001
EXT ANT
IU001
TU001
ANT
IF
VC
LITHIUM BATTERY
IC001,002
VIF/SIF
LINE IN,OUT
VIDEO
CAM VIDEO
D-A CONV
VC PWM
SW UNREG
+33V
DC-DC CONVERTER
+16V
+13V
-8V
-20V
J601
J602
PHONES
HP ON
HP L
HP R
TU-126 BOARD (1/2)
(See page 106.)
(See page 79.)
CN-6P BOARD
SPEAKER
AUDIO POWER AMP
IC901
START/STOP
CAM V
CAM AU 1
CAM UNREG
CAM AU 2
STBY
1
4
5
9
12
10
J601
CAMERA CONNECTOR
J701
VIDEO
RFU DC OUT
AUDIO
L
R
CURRENT LIMITTER
SW 5V
LINE IN•OUT L
LINE IN•OUT R
SW
CAM UNREG
HP L
HP R
IC112
AMP
SW601
DBB
RV601
VOL
RG-22 BOARD (1/3) (See page 73.)
IC101
AFM L
TU L
CAM L
LINE IN•OUT L
INPUT SELECT
REC L
IC109
IC108
PB/EE L
PB/EE R
IC201
AFM R
TU R
CAM R
LINE IN•OUT R
INPUT SELECT
REC R


(See page 82.)
CC-55 BOARD
IC001
CCD
IC601 (Y/C PROCESS)
SYNC SEP
Y/C SEP, Y/C CROSSTALK REDUCTION
REC VIDEO
PB VIDEO
EMPHASIS
MOD
IC802
EQ LIMITER
REC Y RF
DE EMPHASIS
DEMOD
RF AGC
PB Y RF
PB RF
RF SWP (MARKER)
NOICAN
PB Y
IC741
IC701 CHROMA PROCESS
DE EMPHASIS
REC C
ACC
EMPHASIS
REC CONV
PB C RF
PB CONV
ACC
PB C RF
SWP
(See page 69.)
RP-105 BOARD
IC501 REC/PB AMP
RF SWP (MARKER)
REC ATF RF
FE ON
FE OSC/ DRIVER
M902 CAPSTAN
HALL DEVICE
CAPSTAN FG
M903 LOADING
LOADING MOTOR DRIVER
M901 DRUM
RT
FLYING ERASE
1CH
2CH
DRUM FG/PG
DEW SENSOR
IC404
CAPSTAN MOTOR DRIVER
CAPSTAN U,V,W
IC401 (1/2)
PWM DRIVER
IC204 (1/2)
CAPSTAN ERROR AMP
VS
IC405
FG/PG WAVE SHAPER
CAP ON
CAP FWD
CAP ERR
CAP FG
DRUM FG
DRUM PG
SERVO
IC206 (COSMO V) SERVO/ MECHANISM CONTROL
IC403
DRUM MOTOR DRIVER
DRUM U,V,W
IC402
PWM DRIVER
DRUM ERR
ATF ERR
RF CONT
IC301
ATF PROCESS
PB RF
REC ATF
LM LOAD
LM UNLOAD
SEL1,SEL2
MECHANISM CONTROL
VIDEO,AUDIO CONTROL SIGNALS
IC302
CLOG DET, PB SP/SP DET
CLOG
PB SP/LP
FE ON
SERIAL BUS
VIDEO ON
TUNER ON
POWER ON
CAMERA ON
UC-6 BOARD (See page 113.)
FP-90 BOARD
REC PROOF
MP HG
ME/MP
TOP SENS
TAPE TOP/END LED
TAPE TOP SENSOR
T REEL FG
T REEL FG SENSOR
S REEL FG
S REEL FG SENSOR
END SENS
TAPE END SENSOR
MODE SWO-2
MODE SW
CC DOWN
C C DOWN
LD UNREG
5V REG
5V
IC204 (1/2)
FP-89 BOARD
IC101 AFM L
INPUT SELECT
REC L
L+R/2
MOD
DEMOD
IC106
SERIAL/ PARALLEL CONVERTER
MONO ON
MON 1
MON 2
MON 3
MON 4
PB/EE L
PB/EE R
REC/PB MATRIX
IC103,4,5,6
IC109
IC108
1.5M
1.7M
REC AFM RF
PB AFM RF
IC201 AFM R
INPUT SELECT
REC R
L-R/2
(See page 100.) AU-98 BOARD
SW
VIDEO 5V
TU 5V
IC401 (1/2)
SS UNREG
SW REG
SW 5V
POWER ON
DD UNREG
SW UNREG
BL UNREG
LD UNREG
CAP UNREG
LD UNREG
REG
IC102
LI 3V
LIBATTSEL
TUNER CONTROL
PWM
BL CONT
START/STOP
STBY
VDD
DEW
COSMO RESET
RMC IN
SIRCS
J101 CONTROL S
CURRENT LIMITTER
IC101 TIMER/MODE CONTROL
IC105
EEP ROM
AD7
AD0,1,3,4,5
AD2
RESET
RESET
IC103,104
POWER FAIL
IC108,109
BATTERY TERMINAL
(See page 113.) DC-22P BOARD
(See page 108.) SB-3P BOARD
FUNCTION SW
(See page 106.) TU-126 BOARD (1/2)
SW BLOCK
RG-22 BOARD (1/3)
(See page 73.)
CH(+)(-) SW
EJECT POWER CAMERA SW
INDICATOR LED
VTR MODE FUNCTION SW
M IN/OUT 1-4
KB-10P BOARD
(See page 113.)

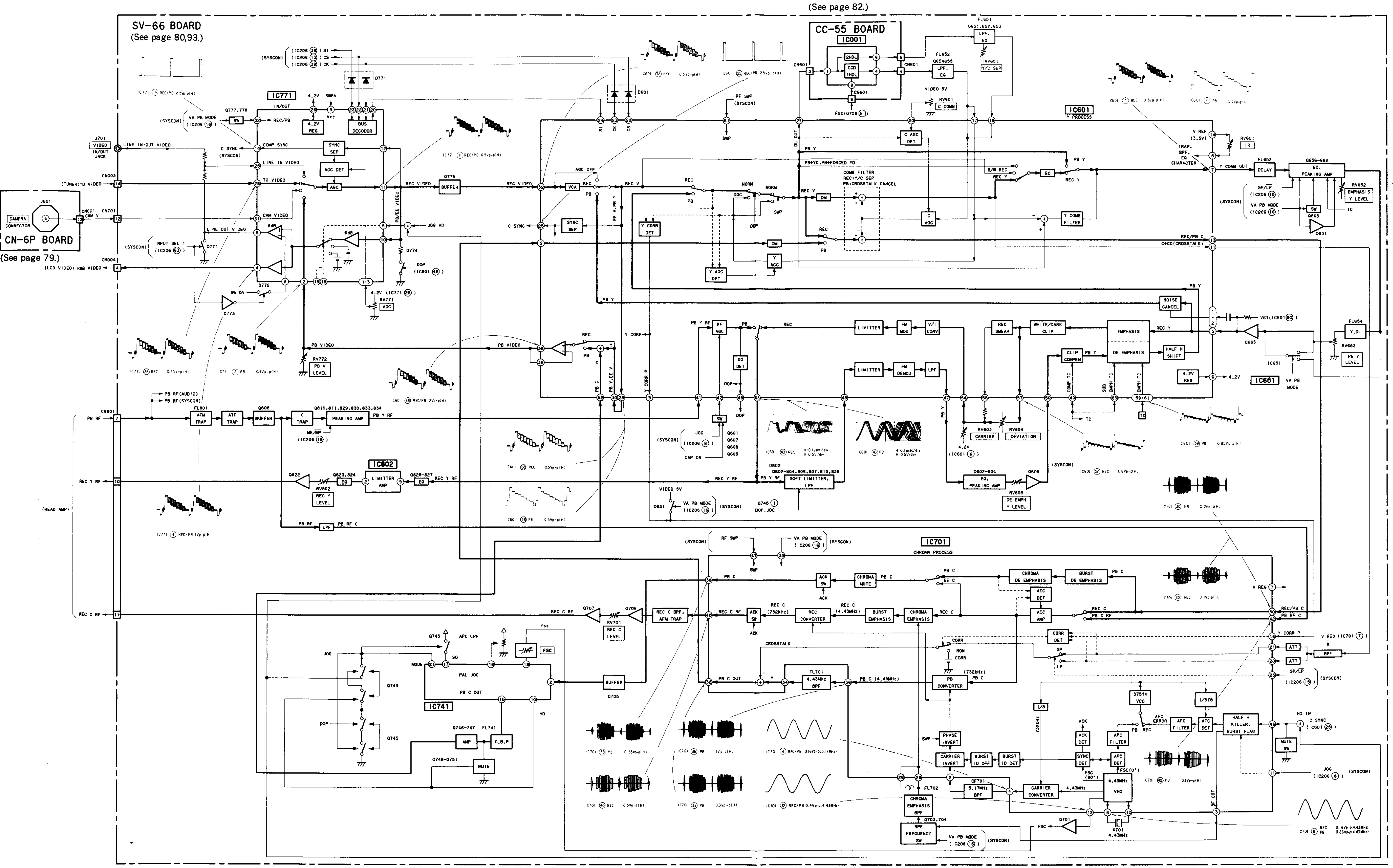
3-3. HEAD AMP BLOCK DIAGRAM


RP-105 BOARD
(See page 69.)
DRUM
VIDEO HEAD CH1
VIDEO HEAD CH2
FLYING ERASE
CN501
CH1(X)
CH2(X)
FE(X)
10
6
3
IC501
REC/PB AMP
(IC501 ③)
V REG
RV501
CH1 PB EQ
RV502
CH2 PB EQ
CH1 HEAD AMP
CH1 EQ AMP
CH2 HEAD AMP
CH2 EQ AMP
CH1
CH2
SW 5V
(CN502 ⑨)
Vcc
Vcc EF
Vcc 1CH
Vcc 2CH
V REG (4.2V)
VG (2.5V)
12dB
V REG
CN502
PB RF(VIDEO)
RF SWP
RF SWP(RF CONT)
CONTROL LOGIC
RP PB 1CH
RP PB 2CH
RP PB MODE
SW 5V
CH1 REC AMP
CH2 REC AMP
V
P
Y/C/AFM/ATF MIX
C/AFM/ATF MIX
PCM/ATF MIX
VCA
Y
C
AFM
PCM
ATF
NORMAL
MULTI
6dB AMP
REC Y RF(VIDEO)
REC C RF(VIDEO)
REC AFM RF(AUDIO)
REC ATF RF(SYSCON)
V REG
(IC501 ③)
Q501
ME/MP
ME/MP(SYSCON)
Q583
ERASE CURRENT SWITCH
Q582
AMP
Q581
FLYING ERASE OSC
FE ON
FE ON(SYSCON)
7
8
16
15
10
11
4
5
18
17

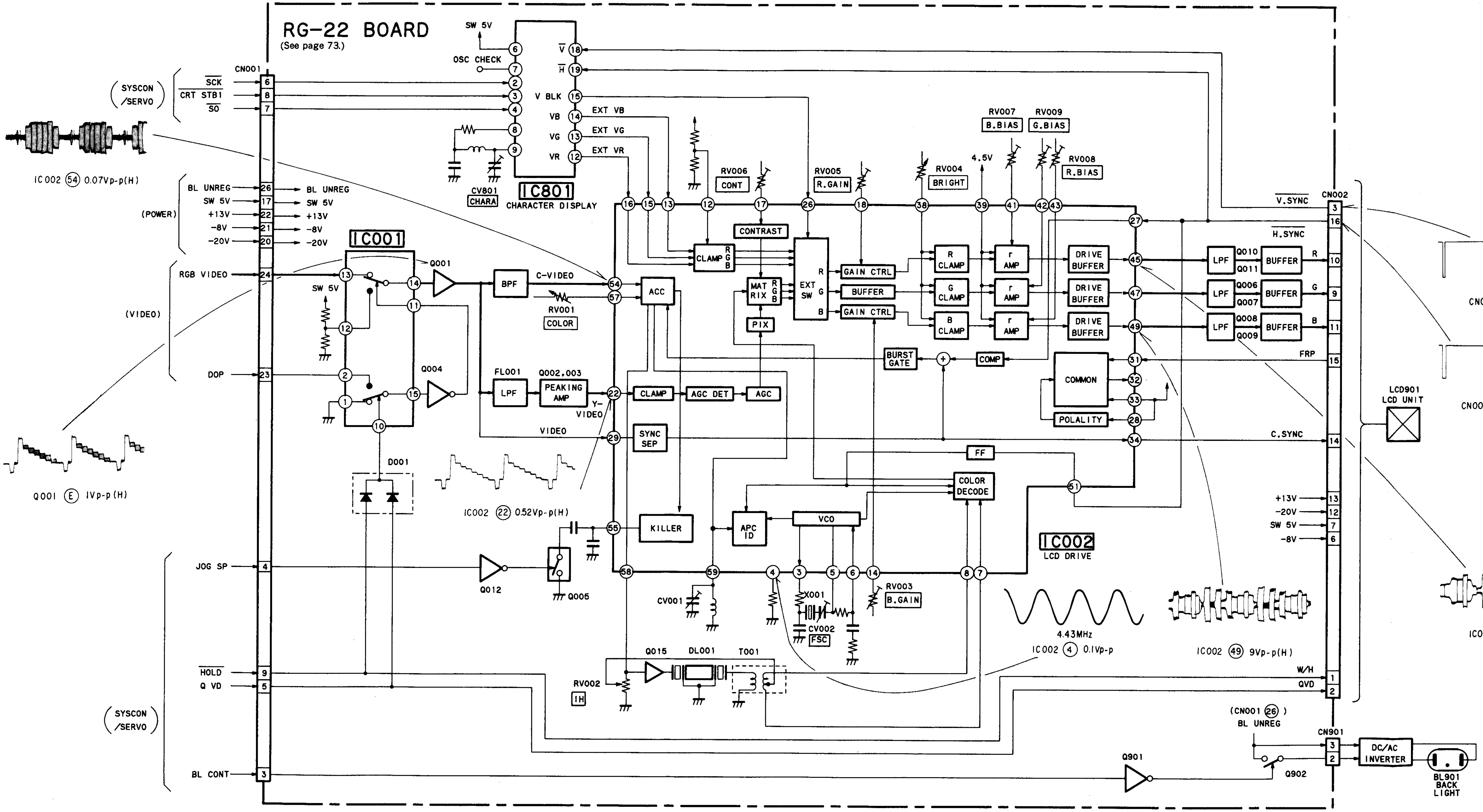
3-4. VIDEO BLOCK DIAGRAM

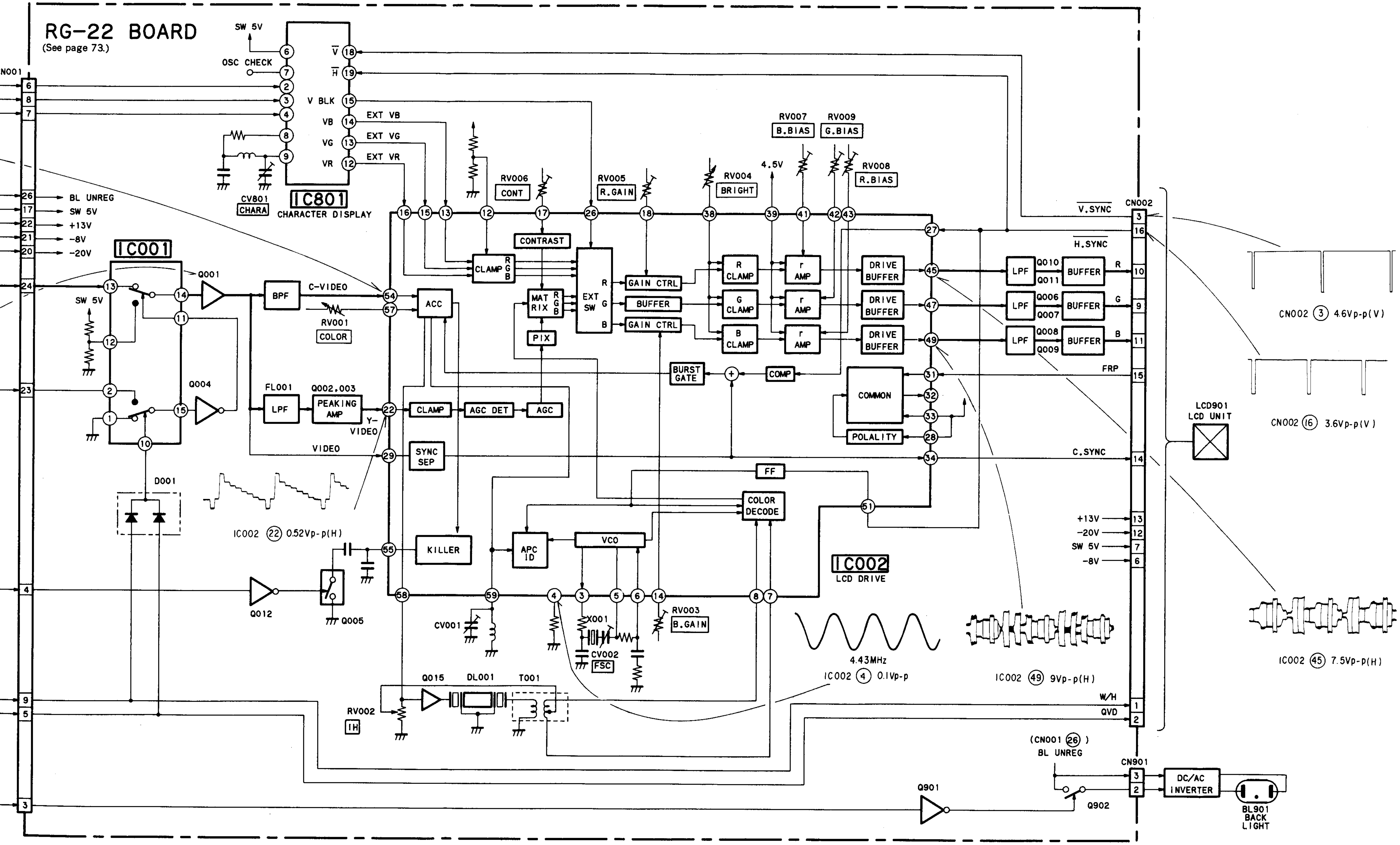

SV-66 BO
(See page 8
J701
VIDEO
IN/OUT JACK
LINE IN·OUT VIDEO
CN003
(TUNER)TU VIDEO
J601
CAMERA CONNECTOR
CN601
CAM V
CN701
CN-6P BOARD
(See page 79.)
(SYSCON)
INPUT SEL
CN004
(LCD VIDEO) RGB VIDEO
CN801
PB RF
REC Y RF
(HEAD AMP)
REC C RF

3-4. VIDEO BLOCK DIAGRAM

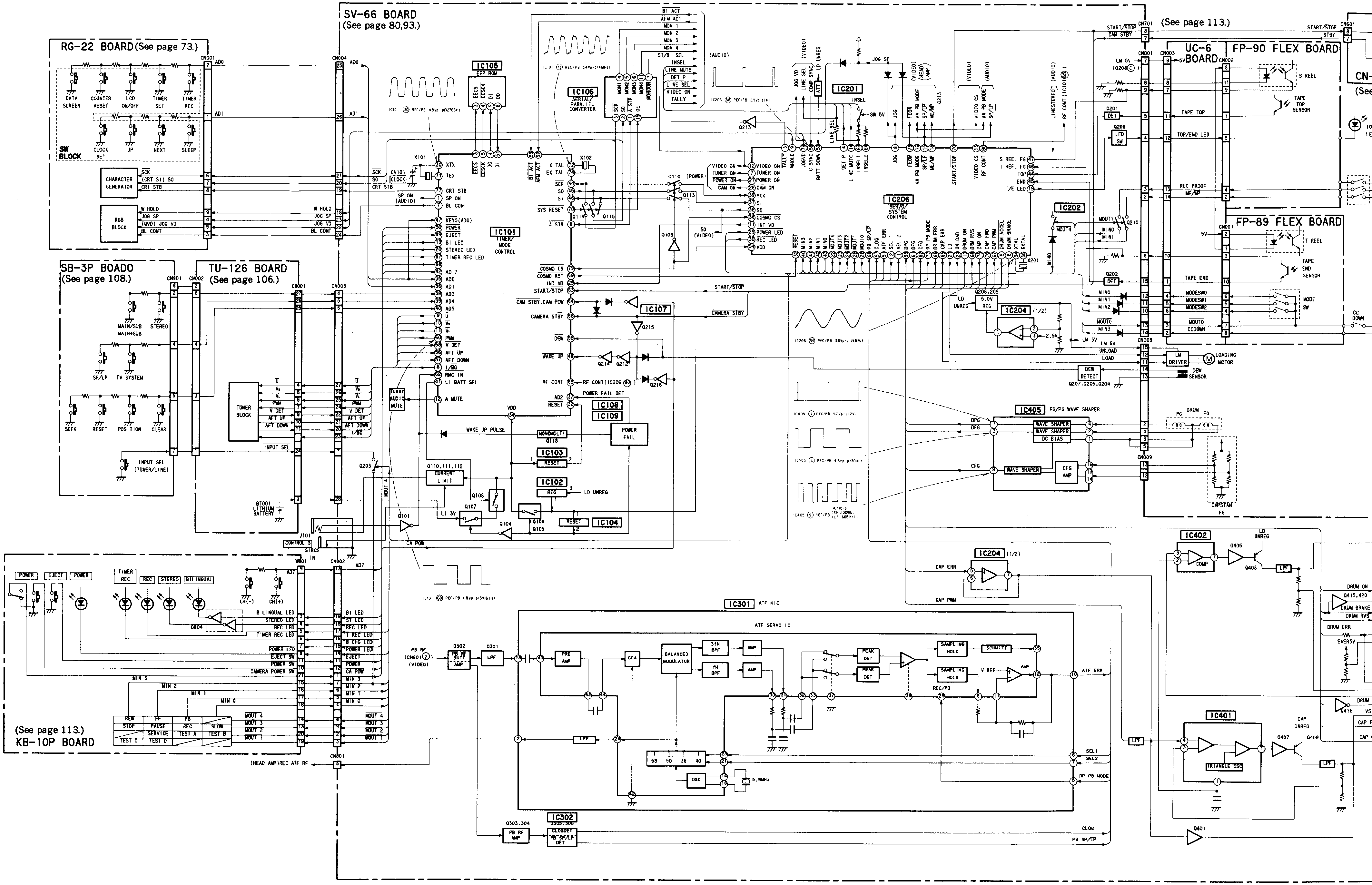

(See page 82.)
SV-66 BOARD
(See page 80,93.)
CC-55 BOARD
IC001
CN-6P BOARD
(See page 79.)
J601
CAMERA CONNECTOR
J701 VIDEO IN/OUT JACK
(TUNER)TU VIDEO
(LCD VIDEO) RGB VIDEO
(HEAD AMP)
PB RF
REC Y RF
REC C RF
IC771
IN/OUT
4.2V REG
BUS DECODER
SYNC SEP
AGC DET
AGC
LINE IN-OUT VIDEO
COMP SYNC
LINE IN VIDEO
TU VIDEO
CAM VIDEO
LINE OUT VIDEO
6dB
Q771
Q772
Q773
Q774
Q775
BUFFER
REC VIDEO
PB/EE VIDEO
JOG VD
DOP
RV771 AGC
RV772 PB V LEVEL
PB VIDEO
D771
D601
(SYSCON)
IC206
SI
CS
CK
RF SWP
FL801
AFM TRAP
ATF TRAP
Q808
BUFFER
C TRAP
Q810,811,829,830,833,834
PEAKING AMP
PB Y RF
PB RF(AUDIO)
PB RF(SYSCON)
NE/MP
IC802
LIMITTER AMP
Q822
Q823,824
Q825-827
EQ
RV802 REC Y LEVEL
LPF
PB RF C
IC601
Y PROCESS
AGC OFF
VCA
REC V
SYNC SEP
C SYNC
EE V,PB Y
Y CORR DET
Y AGC DET
Y AGC
DM
DOC
NORM
COMB FILTER
REC+Y/C SEP
PB+CROSSTALK CANCEL
PB+YD,PB+FORCED YD
DL OUT
C AGC DET
C AGC
B/W REC
REC Y
Y COMB FILTER
FL651
Q651,652,653
LPF, EQ
RV651 Y/C SEP
FL652
Q654655
LPF, EQ
VIDEO 5V
RV601 C COMB
FSC(Q706)
CN601
2HDL
CCD 1HDL
V REF (3.5V)
TRAP, BPF, EQ CHARACTER
RV601 IR
Y COMB OUT
FL653 DELAY
Q656-682 EQ, PEAKING AMP
RV652 EMPHASIS Y LEVEL
SP/LP
VA PB MODE
Q663
Q831
TC
REC/PB C
C+CD(CROSSTALK)
NOISE CANCEL
VG1(IC601)
FL654 Y.DL
Q665
RV653 PB Y LEVEL
IC651
RF AGC
DO DET
LIMITTER
FM MOD
V/I CONV
REC SMEAR
WHITE/DARK CLIP
EMPHASIS
DE EMPHASIS
HALF H SHIFT
CLIP COMPEN
FM DEMOD
4.2V REG
COMP TC
SUB EMPH TC
EMPH TC
RV603 CARRIER
RV604 DEVIATION
Q601 Q607 Q608 Q609
CAP ON
JOG
D802
Q802-804,806,807,815,835
SOFT LIMITTER, LPF
Q602-604 EQ, PEAKING AMP
Q605
RV605 DE EMPH Y LEVEL
Q631
Q745 DOP, JOG
IC701
CHROMA PROCESS
ACK SW
CHROMA MUTE
CHROMA DE EMPHASIS
BURST DE EMPHASIS
ACC DET
ACC AMP
REC C
REC CONVERTER
BURST EMPHASIS
CHROMA EMPHASIS
REC C RF
Q706
Q707
REC C BPF, AFM TRAP
RV701 REC C LEVEL
CROSSTALK
CORR
NON CORR
CORR DET
ATT
BPF
FL701 4.43MHz BPF
PB C OUT
PB CONVERTER
PHASE INVERT
CARRIER INVERT
BURST ID OFF
BURST ID DET
SYNC DET
ACK DET
APC FILTER
APC DET
AFC FILTER
AFC DET
375fH VCO
1/375
1/8
HALF H KILLER, BURST FLAG
MUTE SW
CARRIER CONVERTER
4.43MHz VXO
X701 4.43MHz
Q701
CF701 5.17MHz BPF
FL702
CHROMA EMPHASIS BPF
Q703,704
BPF FREQUENCY SW
HD IN
C SYNC
IC741
Q743
APC LPF
FSC
MODE
SQ
PAL JOG
PB C OUT
Q744
Q745
Q705
BUFFER
Q746-747
AMP
FL741
C.B.P
Q748-Q751
MUTE
HD
DOP

3-5. LCD VIDEO BLOCK DIAGRAM

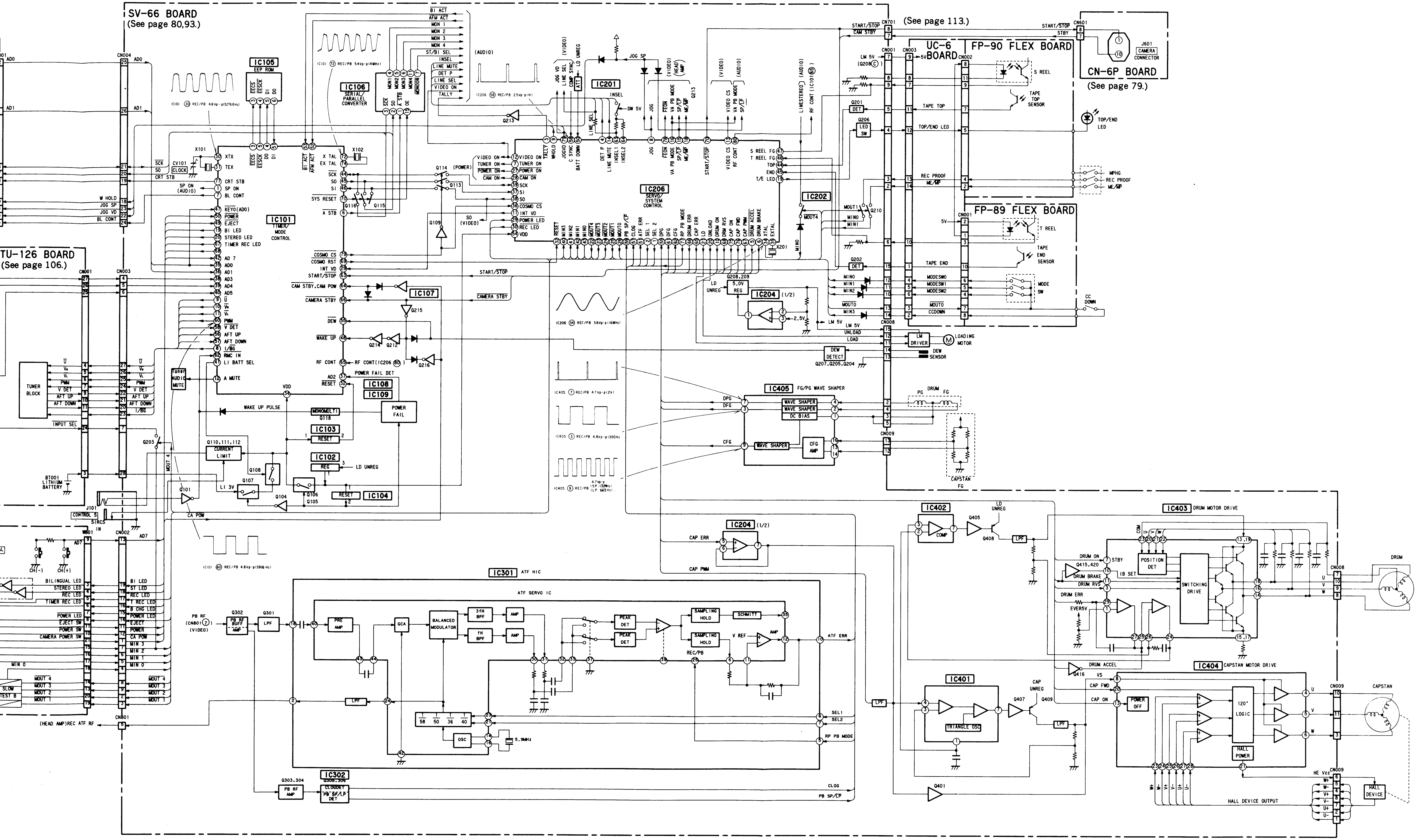

RG-22 BOARD
(See page 73.)
SYSCON /SERVO
CN001
SCK
CRT STB1
SO
IC002 (54) 0.07Vp-p(H)
BL UNREG
SW 5V
+13V
-8V
-20V
(POWER)
RGB VIDEO
(VIDEO)
DOP
Q001 (E) 1Vp-p(H)
JOG SP
HOLD
Q VD
BL CONT
SW 5V
OSC CHECK
V BLK
VB
VG
VR
EXT VB
EXT VG
EXT VR
CV801
CHARA
IC801
CHARACTER DISPLAY
IC001
Q001
Q004
D001
BPF
C-VIDEO
RV001
COLOR
ACC
FL001
LPF
Q002,003
PEAKING AMP
Y-VIDEO
VIDEO
CLAMP
AGC DET
AGC
SYNC SEP
IC002 (22) 0.52Vp-p(H)
KILLER
Q012
Q005
CV001
Q015
DL001
T001
RV002
1H
RV006
CONT
CONTRAST
CLAMP
MAT RIX
PIX
EXT SW
RV005
R.GAIN
GAIN CTRL
BUFFER
BURST GATE
COMP
RV004
BRIGHT
4.5V
RV007
B.BIAS
RV009
G.BIAS
RV008
R.BIAS
R CLAMP
G CLAMP
B CLAMP
r AMP
DRIVE BUFFER
COMMON
POLALITY
FF
COLOR DECODE
APC ID
VCO
X001
CV002
FSC
RV003
B.GAIN
IC002
LCD DRIVE
4.43MHz
IC002 (4) 0.1Vp-p
IC002 (49) 9Vp-p(H)
LPF
Q010
Q011
Q006
Q007
Q008
Q009
BUFFER
R
G
B
CN002
V.SYNC
H.SYNC
FRP
C.SYNC
+13V
-20V
SW 5V
-8V
W/H
QVD
LCD901
LCD UNIT
(CN001 (26))
BL UNREG
CN901
Q901
Q902
DC/AC INVERTER
BL901
BACK LIGHT


RG-22 BOARD
(See page 73.)
CN001
SW 5V
OSC CHECK
V
H
V BLK
VB
VG
VR
EXT VB
EXT VG
EXT VR
CV801
CHARA
IC801
CHARACTER DISPLAY
BL UNREG
SW 5V
+13V
-8V
-20V
IC001
Q001
Q004
BPF
C-VIDEO
RV001
COLOR
FL001
LPF
Q002,003
PEAKING AMP
Y-VIDEO
VIDEO
D001
IC002 ㉒ 0.52Vp-p(H)
Q012
Q005
RV006
CONT
RV005
R.GAIN
RV004
BRIGHT
4.5V
RV007
B.BIAS
RV009
G.BIAS
RV008
R.BIAS
CONTRAST
CLAMP
MATRIX
PIX
EXT SW
GAIN CTRL
BUFFER
GAIN CTRL
R CLAMP
G CLAMP
B CLAMP
r AMP
DRIVE BUFFER
BURST GATE
COMP
COMMON
POLALITY
ACC
CLAMP
AGC DET
AGC
SYNC SEP
FF
COLOR DECODE
KILLER
APC ID
VCO
CV001
X001
CV002
FSC
RV003
B.GAIN
IC002
LCD DRIVE
Q015
DL001
T001
RV002
1H
4.43MHz
IC002 ④ 0.1Vp-p
IC002 ㊾ 9Vp-p(H)
V.SYNC
H.SYNC
FRP
C.SYNC
CN002
LPF
Q010
Q011
Q006
Q007
Q008
Q009
BUFFER
R
G
B
+13V
-20V
SW 5V
-8V
W/H
QVD
LCD901
LCD UNIT
CN002 ③ 4.6Vp-p(V)
CN002 ⑯ 3.6Vp-p(V)
IC002 ㊺ 7.5Vp-p(H)
(CN001 ㉖)
BL UNREG
Q901
Q902
CN901
DC/AC INVERTER
BL901
BACK LIGHT

3-6. SERVO/SYSTEM CONTROL BLOCK DIAGRAM


SV-66 BOARD
(See page 80,93.)
RG-22 BOARD (See page 73.)
DATA SCREEN
COUNTER RESET
LCD ON/OFF
TIMER SET
TIMER REC
CLOCK SET
UP
NEXT
SLEEP
SW BLOCK
CHARACTER GENERATOR
RGB BLOCK
SB-3P BOADO
(See page 108.)
TU-126 BOARD
(See page 106.)
MAIN/SUB
MAIN+SUB
STEREO
SP/LP
TV SYSTEM
SEEK
RESET
POSITION
CLEAR
INPUT SEL (TUNER/LINE)
TUNER BLOCK
BT001 LITHIUM BATTERY
KB-10P BOARD
(See page 113.)
POWER
EJECT
TIMER REC
REC
STEREO
BILINGUAL
REW STOP
FF PAUSE
PB REC
SLOW
TEST C
TEST D
TEST A
TEST B
IC105 EEP ROM
IC106 SERIAL/PARALLEL CONVERTER
IC101 TIMER/MODE CONTROL
IC107
IC108
IC109
POWER FAIL
IC103 RESET
IC102 REG
IC104 RESET
IC201
IC206 SERVO/SYSTEM CONTROL
IC202
IC204 (1/2)
IC405 FG/PG WAVE SHAPER
WAVE SHAPER
DC BIAS
CFG AMP
IC301 ATF HIC
ATF SERVO IC
PRE AMP
GCA
BALANCED MODULATOR
3fH BPF
fH BPF
AMP
PEAK DET
SAMPLING HOLD
SCHMITT
V REF
OSC
5.9MHz
IC302 CLOG DET PB SP/LP DET
PB RF AMP
PB RF BUFF AMP
LPF
IC402 COMP
IC401 TRIANGLE OSC
UC-6 BOARD
FP-90 FLEX BOARD
FP-89 FLEX BOARD
(See page 113.)
S REEL
TAPE TOP SENSOR
T REEL
TAPE END SENSOR
MODE SW
LM DRIVER
LOADING MOTOR
DEW DETECT
DEW SENSOR
PG DRUM FG
CAPSTAN FG
CC DOWN
DRUM ON
DRUM BRAKE
DRUM RVS
DRUM ERR
CAP ERR
CAP PWM
ATF ERR
SEL1
SEL2
RP PB MODE
CLOG
PB SP/LP
(HEAD AMP)REC ATF RF
START/STOP
CAM STBY
CONTROL S
CA POW
WAKE UP PULSE
MONO MULTI Q118
CURRENT LIMIT
LD UNREG
IC101 ⑥⓪ REC/PB 4.8Vp-p(3916Hz)
IC405 ⑦ REC/PB 4.7Vp-p(2V)
IC405 ⑤ REC/PB 4.8Vp-p(300Hz)
IC206 ㊹ REC/PB 3.6Vp-p(16MHz)

LOCK DIAGRAM



SV-66 BOARD
(See page 80,93.)
TU-126 BOARD
(See page 106.)
UC-6 BOARD
FP-90 FLEX BOARD
FP-89 FLEX BOARD
CN-6P BOARD
(See page 79.)
(See page 113.)
IC105 EEP ROM
IC106 SERIAL/PARALLEL CONVERTER
IC101 TIMER/MODE CONTROL
IC201
IC206 SERVO/SYSTEM CONTROL
IC202
IC107
IC108
IC109
IC103 RESET
IC102 REG
IC104 RESET
IC204 (1/2)
IC405 FG/PG WAVE SHAPER
WAVE SHAPER
DC BIAS
CFG AMP
IC402 COMP
IC403 DRUM MOTOR DRIVE
POSITION DET
SWITCHING DRIVE
IC401 TRIANGLE OSC
IC404 CAPSTAN MOTOR DRIVE
120° LOGIC
HALL POWER
HALL DEVICE
HALL DEVICE OUTPUT
IC301 ATF HIC
ATF SERVO IC
PRE AMP
GCA
BALANCED MODULATOR
31H BPF
fH BPF
AMP
PEAK DET
SAMPLING HOLD
SCHMITT
V REF
OSC
5.9MHz
IC302 CLOGDET PB SP/LP DET
PB RF BUFF AMP
PB RF AMP
LPF
TUNER BLOCK
POWER FAIL
MONOMULTI Q118
CURRENT LIMIT
WAKE UP PULSE
LM DRIVER
LOADING MOTOR
DEW DETECT
DEW SENSOR
DRUM
CAPSTAN
CAPSTAN FG
S REEL
T REEL
TAPE TOP SENSOR
TAPE END SENSOR
TOP/END LED
MODE SW
CC DOWN
J601 CAMERA CONNECTOR
LITHIUM BATTERY
CONTROL S
ATF ERR
CAP ERR
CAP PWM
DRUM ERR
DRUM ACCEL
DRUM BRAKE
DRUM RVS
DRUM ON
CAP FWD
CAP ON
LM 5V
UNLOAD
LOAD
START/STOP
CAM STBY
VIDEO ON
TUNER ON
POWER ON
CAM ON
PB RF (CN801 ⑦) (VIDEO)
(HEAD AMP)REC ATF RF

3-7. TABLE OF SV-66 BOARD IC206 (CXP-80116) PORT

Terminal No.	Signal Name.	I/O	Definition	POWOFF
1	SEL2	O	ATF REF SELECT	L
2	SEL1	O	ATF REF SELECT	L
3	TALLY	O	TALLY output for external camera	L
4	DET P	O	ST/BI determination pulse	L
5	DRM ACCEL	O	Drum FH acceleration pulse	L
6	DRM BREAK	O	Drum FH deceleration pulse	L
7	TUNER ON	O	TUNER 5V power ON/OFF signal	L
8	JOG	O	H signal at varying speed playback	L
9	W HOLD	O	Signal for LCD VIDEO HOLD	L
10	DRUM ON	O	DRUM DRIVER control signal	L
11	INT VD	O	INTERNAL VD output	L
12	VIDEO ON	O	VIDEO power ON/OFF signal	L
13	VIDEO CS	O	Chip select for VIDEO communication	L
14	LINE MUTE	O	Audio MUTE signal	L
15	SP/LP	O	SPEED MODE signal	L
16	VAPB MODE	O	VIDEO, AUDIO REC/PB selecting signal	L
17		O		L
18	ME/MP	O	ME/MP TAPE determination signal	L
19	T/E LED	O	TAPE TOP/END detection signal	L
20	UN LD	O	LOADING MOTOR control signal	L
21	LD	O	LOADING MOTOR control signal	L
22	M OUT4	O	KEY MATRIX output	L
23	M OUT3	O	KEY MATRIX output	L
24	M OUT2	O	KEY MATRIX output	L
25	M OUT1	O	KEY MATRIX output	L
26	M OUT0	O	KEY MATRIX output	L
27	POW ON	O	SW 5V system power source control signal	Hiz
28	CAMERA ON	O	Power source control signal for CAMERA	Hiz
29	(POWER)BATT LED	O	POWER LED control signal	Hiz
30	REC LED	O	REC LED control signal	Hiz
31	MP			—
32	CC RESET	I	COSMO RESETterminal	—
33	V_{SS}		GND	
34	XTAL		Terminal for 16MHz Xtal	
35	EXTAL		Terminal for 16MHz Xtal	
36	SYNCON CS	I/O	Chip select for SYSCON	—
37	SYSCON SI	I	Serial data input	—
38	SYSCON SO	I	Serial data output	—
39	SYSCON SCK	I/O	Serial clock	—
40	M IN3	I	MATRIX input	—
41	M IN2	I	MATRIX input	—
42	M IN1	I	MATRIX input	—
43	M IN0	I	MATRIX input	—
44	TAPE TOP	I	TAPE TOP A/D	—
45	TAPE END	I	TAPE END A/D	—
46	T REEL FG	I	T REEL FG A/D	—
47	S REEL FG	I	S REEL FG A/D	—
48		I		—
49		I		—
50	BATT DOWN	I	BATT DOWN A/D	—
51	ATF ERROR	I	ATF ERROR A/D	—
52	AD GND			
53	AV REF		Standard voltage for A/D	
54	AV_{DD}		Power source for A/D	
55	DRUM PG	I	DRUM PG input	—
56				
57	CLOG	I	CLOG detection input	—
58	COMP SYNC	I	COMP SYNC input	—
59	PB SP/LP	I	FF/REW CUE/REV SP/LP determination input	—
60	DRUM PG	I	DRUM PG input	—
61	DRUM FG	I	DRUM FG input	—
62	CAP FG	I	CAP FG input	—
63	INPUT SEL1	O	Input selecting signal for audio	H
64	INPUT SEL2	O	Input selecting signal for audio	H
65	CAP ER	O	CAPSTAN ERROR output	Hiz
66	DRM ER	O	DRUM 3STATE ERROR output	Hiz
67	CAP PWM	O	CAPSTAN PWM ERROR output	L
68	DRUM RVS	O	DRUM direction selecting signal	L
69	CAP FG	O	CAPSTAN FG input for HMS	—
70	START/STOP	O	External camera START/STOP input	—
71	~NMI			
72	V_{DD}		Power source for COSMO	
73	V_{SS}		GND	
74	Vpp			
75	CAP ON	O	CAPSTAN DRIVER ON OFF signal	L
76	CAP FWD	O	CAPSTAN direction selecting signal	L
77	RP PB MODE	O	REC/PB selecting signal	L
78	FE ON	O	Flying erase oscillation ON/OFF signal	L
79	JOG VD	O	VD signal inserting to VIDEO at varying speed playback	L
80	RF CONT	O	RF CONT output	L

3-8. TEST MODE

Use CN802 on the KB-10P board.

CN802 pin position

1	TEST B
2	GND
3	TEST A
4	TEST C
5	TEST D

When each terminal of the TEST A, B, C and D is shortened and opened, twelve types of TEST MODE are selected.

When servicing, attaching the "test mode set jig" (J-6082-110-A) to CN802 allows to select twelve types of test mode with the hexadecimal selecting switches of the jig.

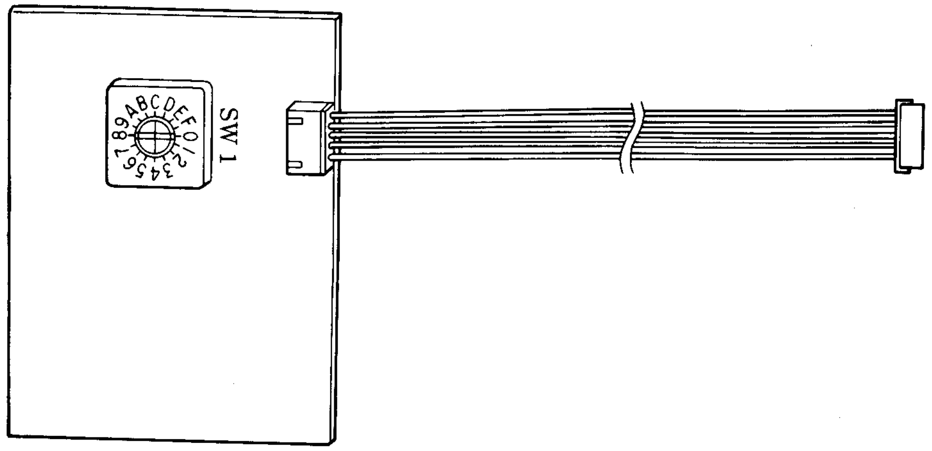


Fig3-1. Test mode set jig

TEST MODE table		Switch position of the test mode set jig.
DCBA	SELECT MODE	
0 0 0 0	Normal mode	0
0 0 0 1	Emergency off	1
0 0 1 0	TT TEST	2
0 0 1 1	Track shift	3
0 1 0 0	SW POSI L	4
0 1 0 1	SW POSI H	5
0 1 1 0	BATT DOWN PRE	6
0 1 1 1	BATT DOWN END	7
1 0 0 0	VIDEO DATA, MP, SP	8
1 0 0 1	VIDEO DATA, MP, LP	9
1 0 1 0	VIDEO DATA, ME, SP	A
1 0 1 1	VIDEO DATA, ME, LP	B

The test code is designated by four figures.

MSB LSB
"D", TEST "C", TEST "B", TEST "A"

At short : 1, At open : 0

VIDEO DATA SELECT MODE is set at the TEST, "D" MAKE.

① Normal mode

Normal set condition

② Emergency off (Release of emergency stop)

③ TT TEST

MODE for extending the SIRCS code (For producing line)

④ Track shift

Run on the ATF track shift condition at the playback mode.

Timer microcomputer is in the clock adjustment mode.

⑤ SW POSI

Adjustment mode of switch position.

SWPOSI is stored in EEPROM as 16bit DATA. This data is adjusted dividing high 8bit and low 8bit. Use CH+/− KEY.

TEST MODE0101 : Varies at 16μsec per 1STEP.

TEST MODE0100 : Varies at 1μsec per 1STEP. When low 8 bit is incremented from FF. HEX, high 8 bit goes UP. And when it is decremented from 00.HEX, high 8 bit goes DOWN.

When the EEPROM has been replaced, it takes considerable time to adjust it. Therefore. the data must be preset before entering adjustment.

Preset function of the SW POSI is added. The preset function sets to high 8 bit to 07. HEX, when the DATA SCREEN KEY of SC part is pressed in the SW POSI adjustment mode. The low 8 bit is not varied.

<When the SV-66 Board IC206 is CXP80116-805Q>

If SW POSI adjustment has been done (for example, for mechanism deck replacement), IC206 should be replaced by CXP80116-821Q (8-752-818-67).

⑥ BATTTERY DOWN ADJUSTMENT

Adjusted with TEST MODE 0111. When this mode is set, the following display is shown on LCD.

PRE −1.76 } ex
DOWN −1.74 }

Supplying voltage for adjusting is performed with applying 5.50V+0.02V to the battery terminal in the TUNER REC SP MODE. When pressing the CH+ KEY on the KB-10P board, the color of display on the LCD turns to blue for few seconds from white, and then returns to white. The voltage of the battery PRE, DOWN is stored in EEPROM as the 8bit DATA by this operation.

⑦ VIDEO DATA ADJUSTMENT MODE

Short the TEST D (Solder the split land at the lower part of the KB-10P board Q803)
The following display is shown on the LCD.

```
VIDEO DATA

CFL1   1   (RESET)
CFL2   1   (DISPLAY)
NCL1   1   (SLEEP)
NCL2   1   (NEXT)
NCLP1  1   (UP)
NCLP2  1   (CLOCK)
```

KB-10P BOARD (Component Side)

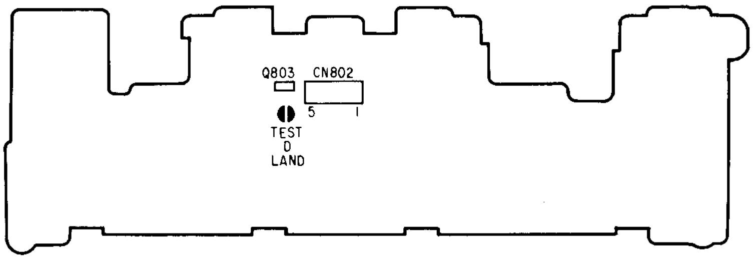


Fig3-2.

Six types of DATA are varied with the KEY on the SC part.

RESET → COUNTER RESET KEY
DISPLAY → DATA SCREEN KEY
SLEEP → SLEEP KEY
NEXT → NEXT KEY
UP → + KEY
CLOCK → CLOCK SET KEY

Pressing each KEY allows to rewrite DATA. ("0" is rewritten to "L", "1" is rewritten to "H".)
Four modes are adjusted by the types of TAPE (ME, MP) and TAPE SPEED (SP, LP).when the CH+KEY is pressed, the color of the display on the LCD turns to blue for few seconds from white and returns to white. The function to store the screen DATA in EEPROM is added by this operation. (See to the Table 3-1. for the data writing to EEPROM.)

Table 3-1. EE P ROM Write Data

TEST MODE						CFL1	CFL2	NCL1	NCL2	NCLP1	NCLP2
D	C	B	A	Switch position of the test mode set jig							
1	0	0	0	8	SP•MP	H	L	H	L	L	L
1	0	0	1	9	LP•MP	L	H	L	H	H	L
1	0	1	0	A	SP•ME	H	L	H	L	L	L
1	0	1	1	B	LP•ME	L	H	L	H	H	L

Note) When EEPROM is replaced, the following adjustment or write should be performed.

1. SW POSI adjustment
2. BATTERY DOWN adjustment
3. VIDEO DATA write
4. Channel preset

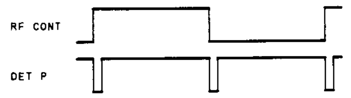
3-9. LIST OF SIRCS CODE (CATEGORY : VTR2)

CODE No.	CODE	COMMAND
01	00	CH-1/1
02	01	CH-2/2
03	02	CH-3/3
04	03	CH-4/4
05	04	CH-5/5
06	05	CH-6/6
07	06	CH-7/7
08	07	CH-8/8
09	08	CH-9/9
10	09	CH-10/0
11	0 A	CH-11/*
12	0 B	CH-12/CH/ENTER/#
13	0 C	CH-13/1−
14	0 D	CH-14/2−
17	10	CH-HIGH(+)
18	11	CH-LOW(−)
22	15	POWER ON/OFF
23	16	EJECT
24	17	MPX MAIN/SUB
25	18	STOP
26	19	PAUSE
27	1 A	PB
28	1 B	REWIND
29	1 C	FF
30	1 D	REC
33	20	STILL
36	23	1/5 SLOW
47	2 E	POWER ON
48	2 F	POWER OFF
50	31	FORWARD
55	36	SLEEP
71	46	COUNTER RESET
72	47	MEM CNTR ON/OFF
80	4F	INPUT SELECT
89	58	SPEED CHANGE
91	5A	COUNTER DISPLAY ON/OFF
97	60	TIMER SET
98	61	NEXT
102	65	TIMER REC

3-10. SYSTEM CONTROL — VIDEO • AUDIO PART INTERFACE

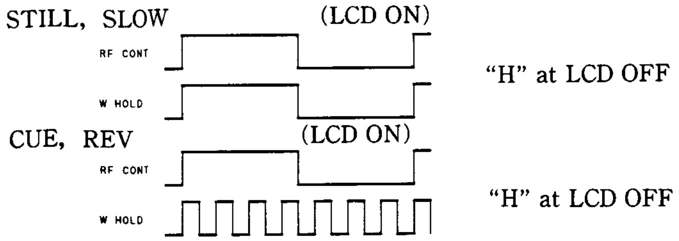
			VTR MODE												CAMERA MODE	
Signal mode	I/O	Terminal No.	STOP	FF	REW	FR SEARCH		PB	PICTURE SEARCH		PB PAUSE	SLOW	REC	REC PAUSE	STAND BY	REC
						CUE	REVIEW		CUE	REVIEW						
DET P	O	IC206④	H	H	H	H	H	∗1	H	H	H	H	∗2	H	H	H
JOG	O	IC206⑧	L	L	L	H	H	L	H	H	H	H	L	L	L	L
W HOLD	O	IC206⑨	H	H	H	∗3	∗3	H	∗3	∗3	∗4	∗4	H	H	H	H
VIDEO ON	O	IC206⑫	L	L	L	H	H	H	H	H	H	H	H	H	H	H
VIDEO CS	O	IC206⑬	∗5	∗5	∗5	∗5	∗5	∗5	∗5	∗5	∗5	∗5	∗5	∗5	∗5	∗5
LINE MUTE	O	IC206⑭	L	L	L	H	H	L	H	H	H	H	L	L	L	L
SP/LP	O	IC206⑮	H/L	H/L	H/L	∗6	∗6	∗6	∗6	∗6	∗6	∗6	H/L	H/L	H/L	H/L
VA PB MODE	O	IC206⑯	L	L	L	H	H	H	H	H	H	H	L	L	L	L
ME/MP	O	IC206⑱	∗8	∗8	∗8	∗8	∗8	∗8	∗8	∗8	∗8	∗8	∗8	∗8	∗8	∗8
SYSCON SO	O	IC206㊳	∗9	∗9	∗9	∗9	∗9	∗9	∗9	∗9	∗9	∗9	∗9	∗9	∗9	∗9
SYSCON SCK	I/O	IC206㊴	∗10	∗10	∗10	∗10	∗10	∗10	∗10	∗10	∗10	∗10	∗10	∗10	∗10	∗10
CLOG	I	IC206(57)	H	∗12	∗12	∗12	∗12	∗12	∗12	∗12	∗12	∗12	H	H	H	H
COMP SYNC	I	IC206(58)	∗13	∗13	∗13	∗13	∗13	∗13	∗13	∗13	∗13	∗13	∗13	∗13	∗13	∗13
PB SP/$\overline{LP}$	I	IC206(59)	L	∗14	∗14	∗14	∗14	L	∗14	∗14	L	L	L	L	L	L
INPUT SEL1	O	IC206(63)	∗15	∗15	∗15	∗15	∗15	∗15	∗15	∗15	∗15	∗15	∗15	∗15	∗15	∗15
INPUT SEL2	O	IC206(64)	∗16	∗16	∗16	∗16	∗16	∗16	∗16	∗16	∗16	∗16	∗16	∗16	∗16	∗16
RP PB MODE	O	IC206(77)	H	H	H	H	H	H	H	H	H	H	L	H	H	L
$\overline{\text{FE ON}}$	O	IC206(78)	H	H	H	H	H	H	H	H	H	H	L	H	H	L
JOG V_D	O	IC206(79)	L	L	L	∗7	∗7	L	∗7	∗7	∗7	∗7	L	L	L	L
RF CONT	O	IC206(80)	L	∗11	∗11	∗11	∗11	∗11	∗11	∗11	∗11	∗11	∗11	∗11	∗11	∗11

∗1, 2 DET P



PB : "L"pulse every 1V
REC : "H" at STEREO and MONO
REC : "L" pulse every 1V at BILIGUAL

∗3, 4 W HOLD



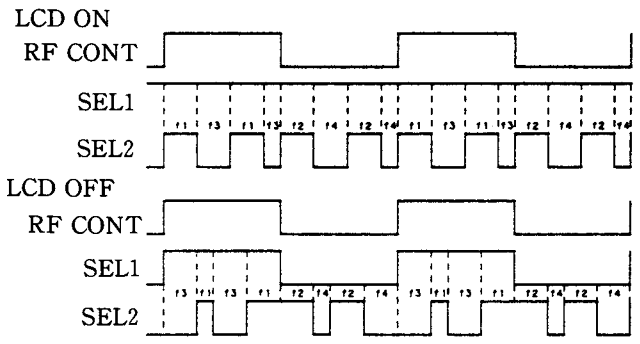
∗5: "L" pulse of 1V period
∗6: By the recording mode of the playback tape.
∗7: "H" pulse of 1V period.
∗8: "L" at using MP TAPE.
∗9: "L" pulse of 1V period.
∗10: "L" pulse of 1V period.
∗11: Duty pulse of 50% of 2V period.
∗12: "H" when the video head is loaded, and "L" at normal.
∗13: Positive polarity composite synchronizing signal.
∗14: "H" at the SP recorded tape, "L" at the LP recorded tape.
∗15, ∗16: Output according to the input mode.

INPUT MODE	INPUT SEL1	INPUT SEL2
TUNER	L	L
LINE	H	H
CAMERA	H	L
PB	L	L
POWER OFF	H	H

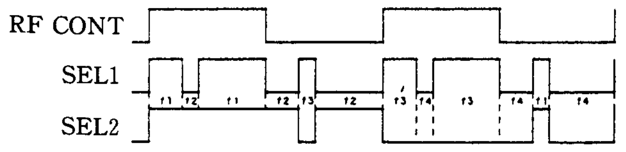
3-11. SYSTEM CONTROL — SERVO PERIPHERAL CIRCUIT INTERFACE

			VTR MODE												CAMERA MODE		
Signal Name	I/O	Terminal No.	STOP	FF	REW	FR SEARCH		PB	PICTURE SEARCH		PB PAUSE	SLOW	REC	REC PAUSE	STAND BY	REC	
						CUE	REVIEW		CUE	REVIEW							
SEL2	O	IC206 ①	L	H	H	＊1	＊1	＊2	＊1	＊1	H/L	＊3	＊4	L	L	＊4	
SEL1	O	IC206 ②	L	H	H	＊5	＊5	＊6	＊5	＊5	H	＊7	＊8	H	H	＊8	
DRUM ON	O	IC206⑩	L	H	H	H	H	H	H	H	H	H	H	H	H	H	
INT VD	O	IC206⑪	＊9	＊9	＊9	＊9	＊9	＊9	＊9	＊9	＊9	＊9	＊9	＊9	＊9	＊9	
ATF ER	I	IC206(51)	＊11	＊11	＊11	＊11	＊11	＊11	＊11	＊11	＊11	＊11	＊11	＊11	＊11	＊11	
DRUM PG	I	IC206(55)(60)	L	＊12	＊12	＊12	＊12	＊12	＊12	＊12	＊12	＊12	＊12	＊12	＊12	＊12	
DRUM FG	I	IC206(61)	L	＊13	＊13	＊13	＊13	＊13	＊13	＊13	＊13	＊13	＊13	＊13	＊13	＊13	
CAP FG	I	IC206(62)(69)	L	＊14	＊14	＊14	＊14	＊14	＊14	＊14	＊14	＊14	＊14	＊14	＊14	＊14	
CAP ER	O	IC206(65)	L	＊15	＊15	＊15	＊15	＊15	＊15	＊15	L	＊15	＊15	L	L	＊15	
DRUM ER	O	IC206(66)	L	＊16	＊16	＊16	＊16	＊16	＊16	＊16	＊16	＊16	＊16	＊16	＊16	＊16	
CAP PWM	O	IC206(67)	L	＊17	＊17	＊17	＊17	＊17	＊17	＊17	＊17	＊17	＊17	L	L	＊17	
DRUM RVS	O	IC206(68)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	(＊18)
CAP ON	O	IC206(75)	L	H	H	H	H	H	H	H	L	＊19	H	L	L	H	
CAPFWD	O	IC206(76)	L	H	L	H	L	H	H	L	L	＊20	H	L	L	H	
$\overline{\text{DRM ACCEL}}$	O	IC206 ⑤	H	H	H	H	H	H	H	H	H	＊21	H	H	H	H	
DRM BRAK	O	IC206 ⑥	L	L	L	L	L	L	L	L	L	＊22	L	L	L	L	
RF CONT	O	IC206(80)	L	＊10	＊10	＊10	＊10	＊10	＊10	＊10	＊10	＊10	＊10	＊10	＊10	＊10	

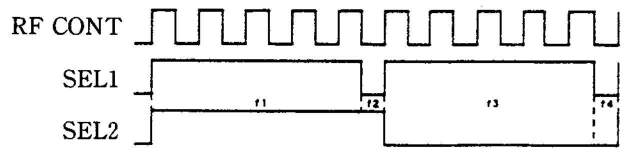
＊1, 5



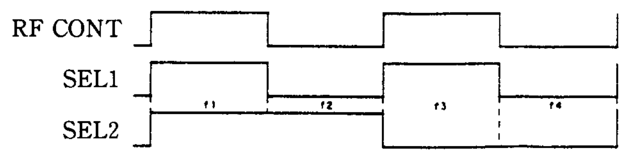
＊2, 6



＊3, 7(1/5 SLOW)



＊4, 8



＊9: "H" pulse of 1V
＊10: Pulse of 50% 2V period Duty.
＊11: ATF error voltage
＊12: "H" pulse of 2V
＊13: Pulse of 1.4msec
＊14: Pulse with frequency in proportion to the tape speed
＊15: Pulse output of CAPSTAN rise/fall time
＊16: PWM output of 6msec of "H", "L", "Hiz" (2.5VDC)
＊17: Pulse width is varied in proportion to the PWM signal tape speed of 64msec.
＊18: Instant "H" at loading the full top tape.
＊19: "H" for the intermittent feeding tape at SLOW.
＊20: BRAKE pulse of the intermittent feeding tape at SLOW.
＊21: Acceleration of the acceleration pulse "L" for fH correction of the DRUM at SLOW.
＊22: Deceleration of the deceleration pulse "H" for fH correction of the DRUM at SLOW.

3-12. SYSTEM CONTROL — SYSTEM CONTROL PERIPHERAL CIRCUIT INTERFACE

Signal name	I/O	Terminal No.	Input-output level
$\overline{\text{TALLY}}$	O	IC206 ③	"H" at normal, "L" at the CAMERA mode with REC
TUNER ON	O	IC206 ⑦	"H" at TUNER of the INPUT mode, "L" at the other.
VIDEO ON	O	IC206⑫	"H" when the operation of VTR part of the REC • PB mode is required, "L" at the other.
SP/$\overline{\text{LP}}$	O	IC206⑮	"H" at playing back of the tape recoded in SP mode and at the SP recorded mode.
ME/$\overline{\text{MP}}$	O	IC206⑱	"L" at using the MP tape, "H" at using the ME tape.
T/E LED	O	IC206⑲	Pulse period of which pulse train is PB • REC, 100msec.. FF • REW. 4msec., CUE • REV, 8msec.
UNLD	O	IC206⑳	"L" at normal, "H" at UNTHREADING. "H" pulse at the mechanical mode transition.
LD	O	IC206㉑	"L" at normal, "H" at THREADING. "H" pulse at the mechanical mode transition.
$\overline{\text{M OUT4}}$	O	IC206㉒	"L" pulse of 19msec period.
$\overline{\text{M OUT3}}$	O	IC206㉓	"L" pulse of 19msec period.
M OUT2	O	IC206㉔	"H" pulse of 19msec period.
M OUT1	O	IC206㉕	"H" pulse of 19msec period.
$\overline{\text{M OUT0}}$	O	IC206㉖	"L" pulse of 2msec period.
$\overline{\text{POW ON}}$	O	IC206㉗	"L" at turning ON the power.
$\overline{\text{CAMERA ON}}$	O	IC206㉘	"L" in the camera mode.
$\overline{\text{(POWER)BATT LED}}$	O	IC206㉙	"L" at lightening POWER LED, L pulse train at warning BATTERY DOWN.
$\overline{\text{REC LED}}$	O	IC206㉚	"L" at REC
$\overline{\text{CC RESET}}$	I	IC206㉜	"H" at normal, "L" at reset
SYSCON CS	I	IC206㊱	"L" pulse train of 1V period
SYSCON SI	I	IC206㊲	"L" pulse train of 1V period
SYSCON SO	O	IC206㊳	"L" pulse train of 1V period
SYSCON SCK	I/O	IC206㊴	"L" pulse train of 1V period
MIN3	I	IC206㊵	Key matrix input "H" at normal, "L" pulse at input
MIN2	I	IC206㊶	Key matrix input "H" at normal, "L" pulse at input
MIN1	I	IC206㊷	Key matrix input "H" at normal, "L" pulse at input
MIN0	I	IC206㊸	Key matrix input "H" at normal, "L" pulse at input
TAPE TOP		IC206㊹	TAPE TOP determination input Pulse train of 0.5 or more at TOP, "L" at the other.
TAPE END		IC206㊺	TAPE END determination input Pulse train of 0.5 or more at TOP.
T REEL FG		IC206㊻	Pulse of 2.0Vp-p or more generated by rotation of the T REEL
S REEL FG		IC206㊼	Pulse of 2.0Vp-p or more generated by rotation of the S REEL
BATT DOWN		IC206㊿	Input by dividing the main battery. Adjust Battery Down based on this.
START/STOP		IC206(70)	"L" at pressing the camera START/STOP button, "H" at normal

Matrix table

	M IN3	M IN2	M IN1	M IN0
$\overline{\text{M OUT4}}$	REW	FF	PB	LINE STEREO
$\overline{\text{M OUT3}}$	STOP	PAUSE	REC	SW
M OUT2	TUNER/ LINE/ CAMERA	SERVICE	TEST A	TEST B
M OUT1	TEST C	TEST D	ME/MP	REC PROOF
$\overline{\text{M OUT0}}$	CC LOCK	M SW2	M SW1	M SW0

3-13. SYSTE

Signal Na
ME/$\overline{\text{MP}}$
REC PRO
TOP/END
TOP SEN
T REEL
S REEL
MODE SW
MODE SW
MODE SW
MOUT0 (C
CC DOW
END SEN

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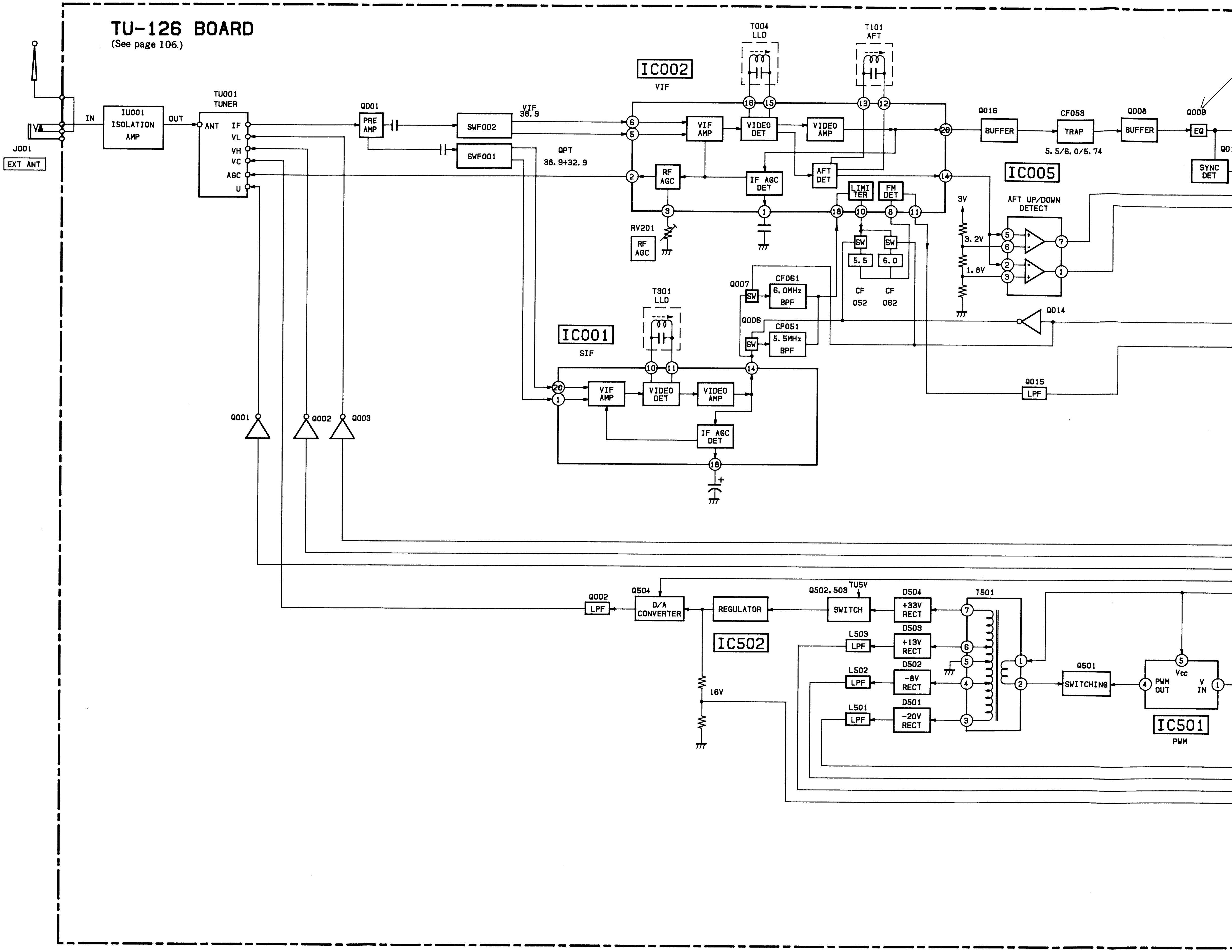
Matrix table

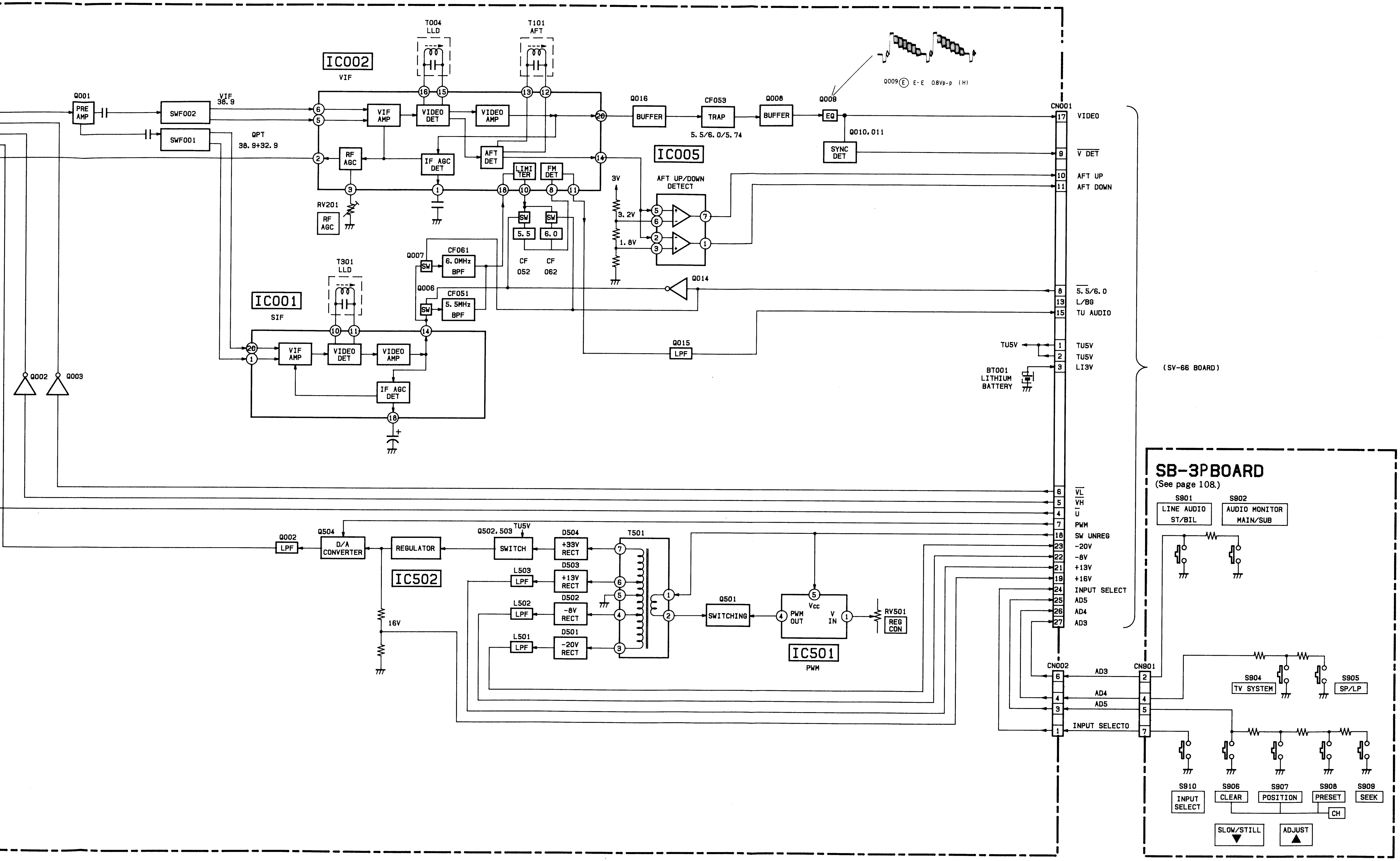
	M IN3	M IN2	M IN1	M IN0
$\overline{\text{M OUT4}}$	REW	FF	PB	LINE STEREO
$\overline{\text{M OUT3}}$	STOP	PAUSE	REC	SW
M OUT2	TUNER/ LINE/ CAMERA	SERVICE	TEST A	TEST B
M OUT1	TEST C	TEST D	ME/MP	REC PROOF
$\overline{\text{M OUT0}}$	CC LOCK	M SW2	M SW1	M SW0

3-13. SYSTEM CONTROL — MECHANISM CONTROL PART INTERFACE

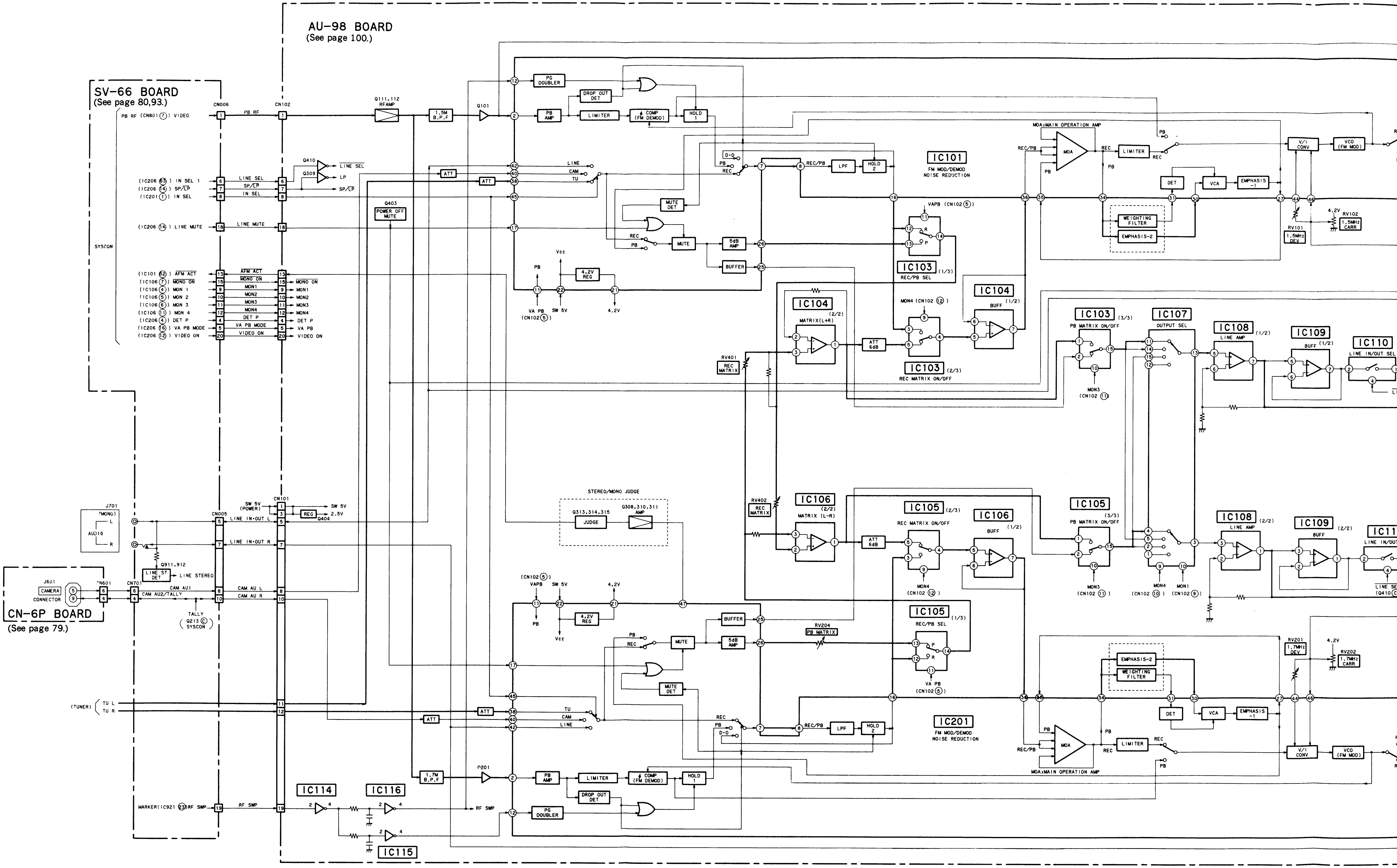
<table>
<tr><th>Signal Name</th><th>I/O</th><th>Terminal No.</th><th>Input-output Level</th></tr>
<tr><td>ME/$\overline{\text{MP}}$</td><td>I</td><td>CN001 ②</td><td>"L" pulse at using the MP tape, "H" pulse at the other (19msec period)</td></tr>
<tr><td>REC PROOF</td><td>I</td><td>CN001 ③</td><td>"L" pulse when the recording cassette is inserted, "H" pulse at the other (19msec period)</td></tr>
<tr><td>TOP/END LED</td><td>O</td><td>CN001 ④</td><td>"L" pulse of 1Vp-p, the pulse period is 100msec to 4msec</td></tr>
<tr><td>TOP SENS</td><td>I</td><td>CN001 ⑤</td><td>"L" at normal, "L" pulse at TAPE TOP and without a cassette</td></tr>
<tr><td>T REEL FG</td><td>I</td><td>CN001 ⑥</td><td>Pulse generated by the T reel rotation (2.0Vp-p or more)</td></tr>
<tr><td>S REEL FG</td><td>I</td><td>CN001 ⑨</td><td>Pulse generated by the S reel rotation (2.0Vp-p or more)</td></tr>
<tr><td>MODE SW2</td><td>I</td><td>CN001 ⑩</td><td rowspan="4">
<table>
<tr><th></th><th>EJECTED</th><th>THREADING UNTHREADING</th><th>STOP</th><th>REC/PB/FF/ REW/CEU/REV PAUSE/SLOW</th></tr>
<tr><td>M SW2 (10P-13P)</td><td>○</td><td>○</td><td>×</td><td>○</td></tr>
<tr><td>M SW1 (11P-13P)</td><td>×</td><td>○</td><td>○</td><td>×</td></tr>
<tr><td>M SW0 (12P-13P)</td><td>×</td><td>×</td><td>○</td><td>○</td></tr>
</table>
○ : Short × : Open</td></tr>
<tr><td>MODE SW1</td><td>I</td><td>CN001⑪</td></tr>
<tr><td>MODE SW0</td><td>I</td><td>CN001⑫</td></tr>
<tr><td>MOUT0 (COM)</td><td>O</td><td>CN001⑬</td></tr>
<tr><td>CC DOWN</td><td>I</td><td>CN001⑭</td><td>Between 13P and 14P is shortened when the cassette control goes down. Between 13P and 14P is opened when the cassette control does not go down.</td></tr>
<tr><td>END SENS</td><td>I</td><td>CN001⑮</td><td>"L" pulse at normal, "H" pulse at the tape end and at having no tape.</td></tr>
</table>

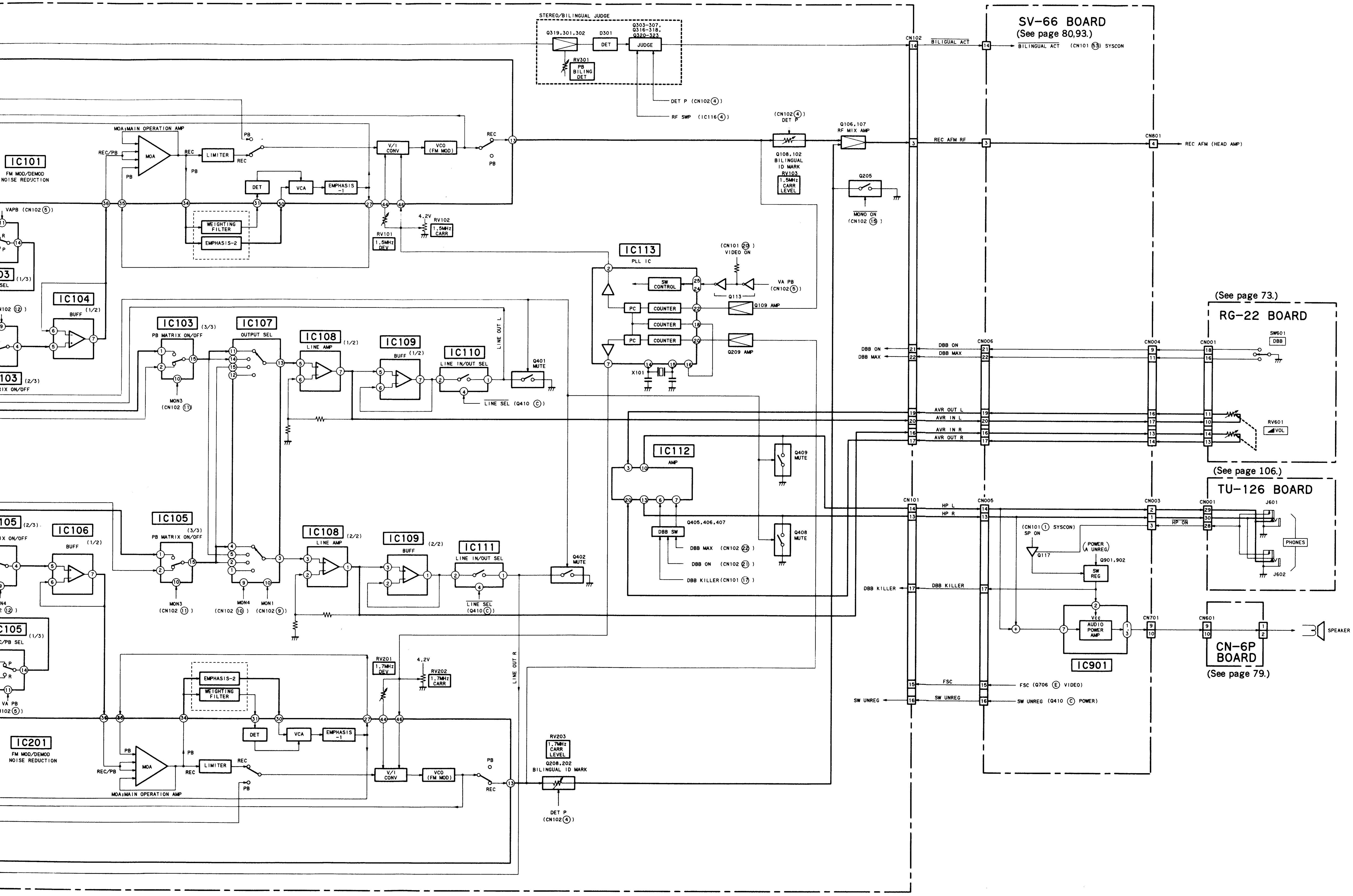
3-14. TUNER BLOCK DIAGRAM


TU-126 BOARD
(See page 106.)
J001
EXT ANT
IN
IU001
ISOLATION
AMP
OUT
TU001
TUNER
ANT
IF
VL
VH
VC
AGC
U
Q001
PRE AMP
SWF002
SWF001
VIF
38.9
QPT
38.9+32.9
IC002
VIF
T004
LLD
T101
AFT
VIF AMP
VIDEO DET
VIDEO AMP
RF AGC
IF AGC DET
AFT DET
LIMITER
FM DET
RV201
RF AGC
SW
SW
5.5
6.0
CF 052
CF 062
Q007
CF061
6.0MHz BPF
Q006
CF051
5.5MHz BPF
T301
LLD
IC001
SIF
VIF AMP
VIDEO DET
VIDEO AMP
IF AGC DET
Q016
BUFFER
CF053
TRAP
5.5/6.0/5.74
Q008
BUFFER
Q008
EQ
SYNC DET
IC005
AFT UP/DOWN DETECT
3V
3.2V
1.8V
Q014
Q015
LPF
Q001
Q002
Q003
Q002
LPF
Q504
D/A CONVERTER
REGULATOR
IC502
16V
Q502, 503
TU5V
SWITCH
D504
+33V RECT
D503
+13V RECT
L503
LPF
D502
-8V RECT
L502
LPF
D501
-20V RECT
L501
LPF
T501
Q501
SWITCHING
PWM OUT
Vcc
V IN
IC501
PWM

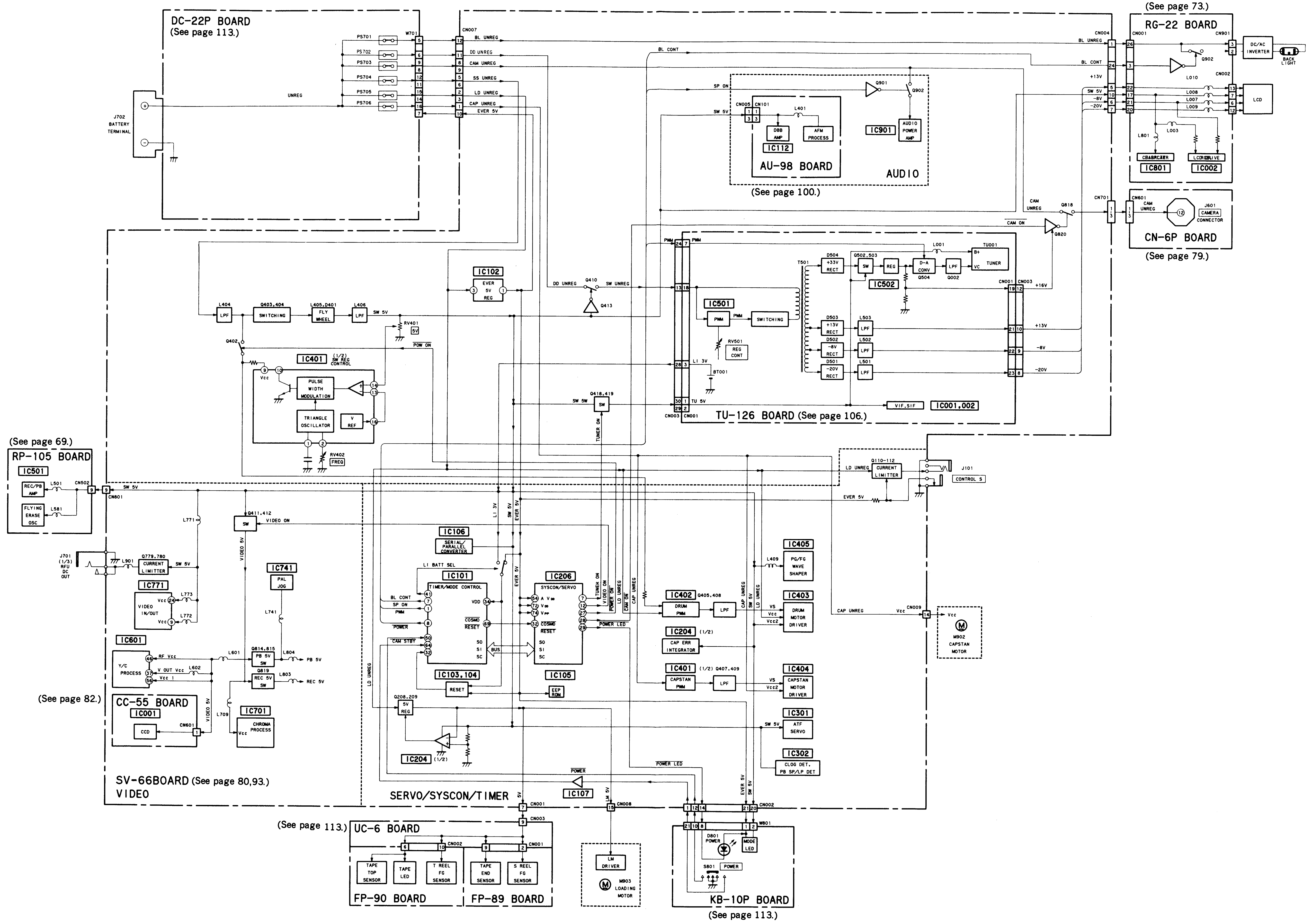

IC002
VIF
T004
LLD
T101
AFT
Q001
PRE AMP
SWF002
VIF
38.9
SWF001
QPT
38.9+32.9
VIF AMP
VIDEO DET
VIDEO AMP
RF AGC
IF AGC DET
AFT DET
LIMI TER
FM DET
SW
SW
5.5
6.0
CF
052
CF
062
RV201
RF AGC
Q016
BUFFER
CF053
TRAP
5.5/6.0/5.74
Q008
BUFFER
Q009
EQ
Q009 Ⓔ E-E 0.8Vp-p (H)
Q010, 011
SYNC DET
IC005
AFT UP/DOWN DETECT
3V
3.2V
1.8V
Q014
Q007
CF061
6.0MHz BPF
Q006
CF051
5.5MHz BPF
T301
LLD
IC001
SIF
VIF AMP
VIDEO DET
VIDEO AMP
IF AGC DET
Q015
LPF
Q002
Q003
CN001
VIDEO
V DET
AFT UP
AFT DOWN
5.5/6.0
L/BG
TU AUDIO
TU5V
TU5V
TU5V
LI3V
BT001
LITHIUM
BATTERY
(SV-66 BOARD)
VL
VH
U
PWM
SW UNREG
-20V
-8V
+13V
+16V
INPUT SELECT
AD5
AD4
AD3
Q002
LPF
Q504
D/A CONVERTER
REGULATOR
IC502
16V
Q502, 503
TU5V
SWITCH
D504
+33V RECT
D503
+13V RECT
D502
-8V RECT
D501
-20V RECT
L503
LPF
L502
LPF
L501
LPF
T501
Q501
SWITCHING
Vcc
PWM OUT
V IN
IC501
PWM
RV501
REG CON
CN002
CN901
AD3
AD4
AD5
INPUT SELECTO
SB-3P BOARD
(See page 108.)
S901
LINE AUDIO ST/BIL
S902
AUDIO MONITOR MAIN/SUB
S904
TV SYSTEM
S905
SP/LP
S910
INPUT SELECT
S906
CLEAR
S907
POSITION
S908
PRESET
S909
SEEK
CH
SLOW/STILL ▼
ADJUST ▲

3-15. AUDIO BLOCK DIAGRAM


AU-98 BOARD
(See page 100.)
SV-66 BOARD
(See page 80,93.)
CN-6P BOARD
(See page 79.)
SYSCON
CN006
CN102
CN005
CN101
CN701
CN601
J701
J601
CAMERA CONNECTOR
AUDIO
(MONO) L
R
PB RF (CN801 ⑦) VIDEO
(IC206 63) IN SEL 1
(IC206 ⑭) SP/LP
(IC201 ①) IN SEL
(IC206 ⑭) LINE MUTE
(IC101 62) AFM ACT
(IC106 ⑦) MONO ON
(IC106 ④) MON 1
(IC106 ⑤) MON 2
(IC106 ⑥) MON 3
(IC106 ⑪) MON 4
(IC206 ④) DET P
(IC206 ⑯) VA PB MODE
(IC206 ⑫) VIDEO ON
PB RF
LINE SEL
SP/LP
IN SEL
LINE MUTE
AFM ACT
MONO ON
MON1
MON2
MON3
MON4
DET P
VA PB MODE
VIDEO ON
VA PB
Q111,112 RFAMP
1.5M B.P.F
Q101
PG DOUBLER
DROP OUT DET
PB AMP
LIMITER
COMP (FM DEMOD)
HOLD 1
HOLD 2
LPF
Q410
Q309
Q403 POWER OFF MUTE
ATT
LINE
CAM
TU
MUTE DET
MUTE
5dB AMP
BUFFER
REC
PB
D·O
REC/PB
VCC
4.2V REG
4.2V
SW 5V
VA PB (CN102 ⑤)
IC101
FM MOD/DEMOD NOISE REDUCTION
MOA:MAIN OPERATION AMP
MOA
LIMITER
DET
VCA
EMPHASIS -1
EMPHASIS-2
WEIGHTING FILTER
V/I CONV
VCO (FM MOD)
RV101 1.5MHz DEV
RV102 1.5MHz CARR
IC103 (1/3) REC/PB SEL
VAPB (CN102 ⑤)
IC104 (2/2) MATRIX (L+R)
IC104 (1/2) BUFF
MON4 (CN102 ⑫)
ATT 6dB
IC103 (2/3) REC MATRIX ON/OFF
IC103 (3/3) PB MATRIX ON/OFF
IC107 OUTPUT SEL
IC108 (1/2) LINE AMP
IC109 (1/2) BUFF
IC110 LINE IN/OUT SEL
MON3 (CN102 ⑪)
RV401 REC MATRIX
RV402 REC MATRIX
STEREO/MONO JUDGE
Q313,314,315 JUDGE
Q308,310,311 AMP
SW 5V (POWER)
REG
Q404
SW 5V
2.5V
LINE IN-OUT L
LINE IN-OUT R
Q911,912
LINE ST DET
LINE STEREO
CAM AU1
CAM AU2/TALLY
CAM AU L
CAM AU R
TALLY (Q213 © SYSCON)
IC106 (2/2) MATRIX (L-R)
IC105 (2/3) REC MATRIX ON/OFF
IC106 (1/2) BUFF
IC105 (3/3) PB MATRIX ON/OFF
IC108 (2/2) LINE AMP
IC109 (2/2) BUFF
MON4 (CN102 ⑫)
MON3 (CN102 ⑪)
MON4 (CN102 ⑩)
MON1 (CN102 ⑨)
LINE SEL (Q410 ©)
(CN102 ⑤) VAPB
IC105 (1/3) REC/PB SEL
RV204 PB MATRIX
VA PB (CN102 ⑤)
IC201
FM MOD/DEMOD NOISE REDUCTION
RV201 1.7MHz DEV
RV202 1.7MHz CARR
(TUNER) TU L
TU R
1.7M B.P.F
Q201
MARKER (IC921 ㉓) RF SWP
RF SWP
IC114
IC116
IC115

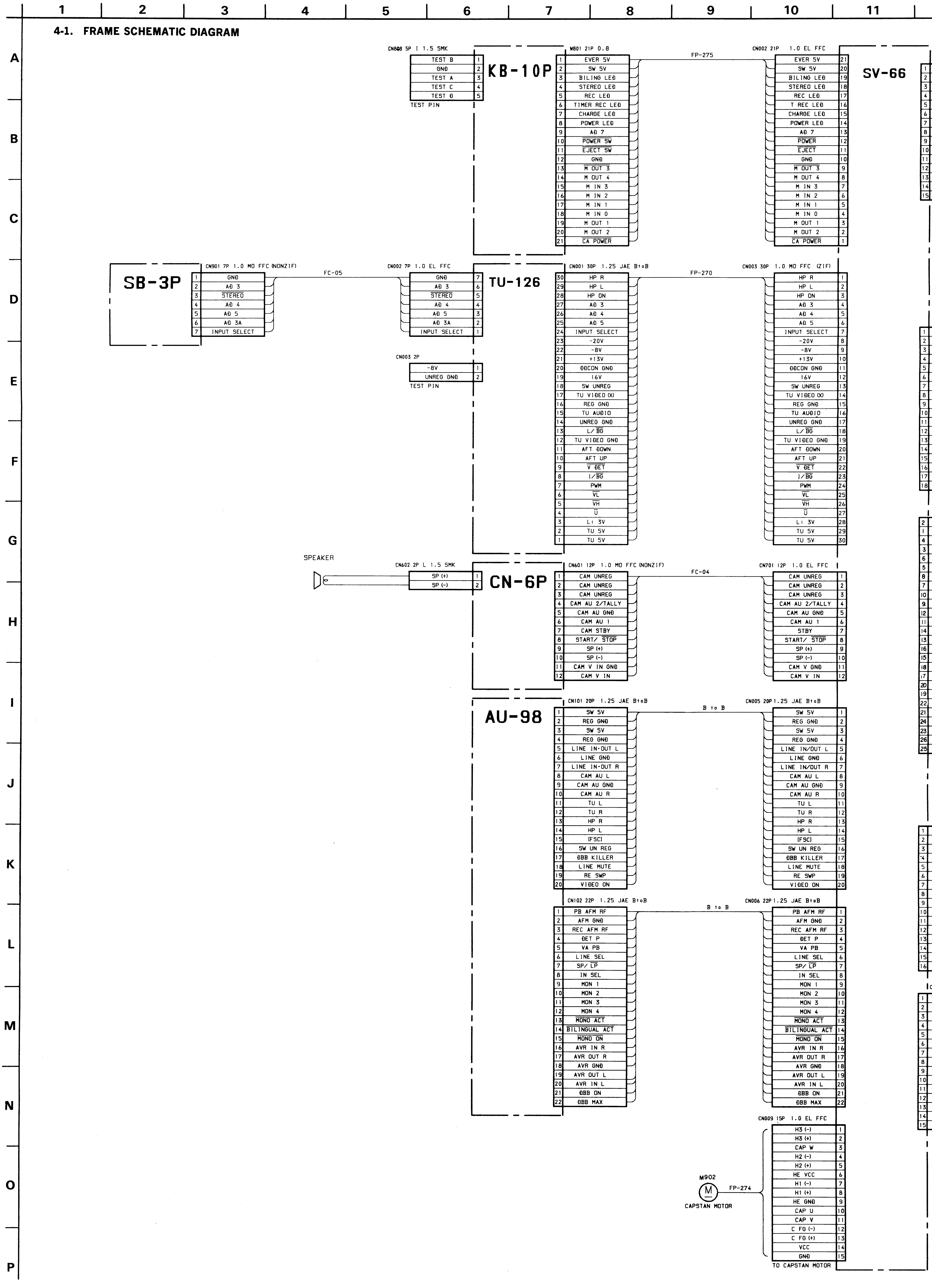

STEREO/BILINGUAL JUDGE
Q319,301,302
D301
DET
Q303-307, Q316-318, Q320-323
JUDGE
RV301
PB BILING DET
DET P (CN102④)
RF SWP (IC116④)
MOA;MAIN OPERATION AMP
IC101
FM MOD/DEMOD NOISE REDUCTION
REC/PB
MOA
REC
PB
LIMITER
DET
VCA
EMPHASIS -1
WEIGHTING FILTER
EMPHASIS-2
V/I CONV
VCO (FM MOD)
RV101
1.5MHz DEV
4.2V
RV102
1.5MHz CARR
VAPB (CN102⑤)
(1/3)
SEL
IC104
BUFF
(1/2)
IC103 (3/3)
PB MATRIX ON/OFF
MON3 (CN102 ⑪)
IC103 (2/3)
RIX ON/OFF
IC107
OUTPUT SEL
IC108 (1/2)
LINE AMP
IC109
BUFF (1/2)
IC110
LINE IN/OUT SEL
LINE SEL (Q410 Ⓒ)
LINE OUT L
Q401 MUTE
IC113
PLL IC
SW CONTROL
PC
COUNTER
X101
(CN101 ⑳) VIDEO ON
Q113
VA PB (CN102⑤)
Q109 AMP
Q209 AMP
(CN102④) DET P
Q108,102 BILINGUAL ID MARK
RV103
1.5MHz CARR LEVEL
Q106,107 RF MIX AMP
Q205
MONO ON (CN102 ⑮)
CN102
BILIGUAL ACT
REC AFM RF
SV-66 BOARD
(See page 80,93.)
BILINGUAL ACT (CN101 ㊿3) SYSCON
CN801
REC AFM (HEAD AMP)
DBB ON
DBB MAX
CN006
CN004
CN001
(See page 73.)
RG-22 BOARD
SW601
DBB
AVR OUT L
AVR IN L
AVR IN R
AVR OUT R
RV601
VOL
IC112
AMP
Q409 MUTE
Q408 MUTE
Q405,406,407
DBB SW
DBB MAX (CN102 ㉒)
DBB ON (CN102 ㉑)
DBB KILLER (CN101 ⑰)
IC105 (2/3)
IX ON/OFF
IC106
BUFF (1/2)
IC105 (3/3)
PB MATRIX ON/OFF
MON3 (CN102 ⑪)
MON4 (CN102 ⑩)
MON1 (CN102⑨)
IC108 (2/2)
LINE AMP
IC109 (2/2)
BUFF
IC111
LINE IN/OUT SEL
LINE SEL (Q410Ⓒ)
Q402 MUTE
LINE OUT R
IC105 (1/3)
C/PB SEL
VA PB (CN102⑤)
RV201
1.7MHz DEV
4.2V
RV202
1.7MHz CARR
IC201
FM MOD/DEMOD NOISE REDUCTION
MOA;MAIN OPERATION AMP
RV203
1.7MHz CARR LEVEL
Q208,202 BILINGUAL ID MARK
DET P (CN102④)
CN101
HP L
HP R
CN005
CN003
HP ON
(See page 106.)
TU-126 BOARD
J601
J602
PHONES
(CN101① SYSCON) SP ON
Q117
(POWER A UNREG)
Q901,902
SW REG
DBB KILLER
Vcc
AUDIO POWER AMP
IC901
CN701
CN601
CN-6P BOARD
(See page 79.)
SPEAKER
FSC
FSC (Q706 Ⓔ VIDEO)
SW UNREG
SW UNREG (Q410 Ⓒ POWER)

3-16. POWER BLOCK DIAGRAM


DC-22P BOARD
(See page 113.)
J702 BATTERY TERMINAL
UNREG
PS701
PS702
PS703
PS704
PS705
PS706
W701
CN007
BL UNREG
DD UNREG
CAM UNREG
SS UNREG
LD UNREG
CAP UNREG
EVER 5V
BL CONT
SP ON
SW 5V
CN005
CN101
L401
DBB AMP
AFM PROCESS
IC112
AU-98 BOARD
(See page 100.)
Q901
Q902
IC901
AUDIO POWER AMP
AUDIO
(See page 73.)
RG-22 BOARD
CN001
CN901
CN004
BL UNREG
BL CONT
+13V
SW 5V
-8V
-20V
DC/AC INVERTER
BACK LIGHT
Q902
L010
CN002
L008
L007
L009
LCD
L801
L003
IC801
IC002
CN701
CN601
CAM UNREG
J601 CAMERA CONNECTOR
CN-6P BOARD
(See page 79.)
CAM UNREG
Q818
CAM ON
Q820
IC102
EVER 5V REG
DD UNREG
Q410
SW UNREG
Q413
L404
LPF
Q403,404
SWITCHING
L405,D401
FLY WHEEL
L406
LPF
SW 5V
RV401
5V
POW ON
Q402
IC401
(1/2) SW REG CONTROL
Vcc
PULSE WIDTH MODULATION
TRIANGLE OSCILLATOR
V REF
RV402
FREQ
PWM
IC501
PWM
SWITCHING
RV501
REG CONT
LI 3V
BT001
T501
D504
+33V RECT
Q502,503
SW
REG
D-A CONV
Q504
LPF
Q002
L001
TU001
B+
VC
TUNER
IC502
CN001
CN003
+16V
D503
+13V RECT
L503
LPF
D502
-8V RECT
L502
LPF
D501
-20V RECT
L501
LPF
+13V
-8V
-20V
Q418,419
SW 5V
SW
TUNER ON
TU 5V
VIF,SIF
IC001,002
CN003
CN001
TU-126 BOARD (See page 106.)
(See page 69.)
RP-105 BOARD
IC501
REC/PB AMP
L501
CN502
FLYING ERASE OSC
L581
CN601
SW 5V
Q110-112
LD UNREG
CURRENT LIMITTER
J101
CONTROL S
EVER 5V
L771
Q411,412
SW
VIDEO ON
VIDEO 5V
J701 (1/3) RFU DC OUT
L901
Q779,780
CURRENT LIMITTER
SW 5V
IC771
VIDEO IN/OUT
L773
L772
IC741
PAL JOG
L741
IC601
Y/C PROCESS
RF Vcc
V OUT Vcc
Vcc 1
L601
L602
Q814,815
PB 5V SW
L804
PB 5V
Q819
REC 5V SW
L803
REC 5V
(See page 82.)
CC-55 BOARD
IC001
CCD
CN601
L709
IC701
CHROMA PROCESS
SV-66BOARD (See page 80,93.)
VIDEO
IC106
SERIAL/PARALLEL CONVERTER
LI BATT SEL
IC101
TIMER/MODE CONTROL
BL CONT
SP ON
PWM
POWER
CAM STBY
VDD
COSMO RESET
SO
SI
SC
BUS
IC206
SYSCON/SERVO
COSMO RESET
TUNER ON
VIDEO ON
POWER ON
CAM ON
POWER LED
IC103,104
RESET
IC105
EEP ROM
LD UNREG
Q208,209
5V REG
IC204 (1/2)
LI 3V
EVER 5V
CAP UNREG
IC402
Q405,408
DRUM PWM
LPF
IC405
L409
PG/FG WAVE SHAPER
IC403
DRUM MOTOR DRIVER
IC204 (1/2)
CAP ERR INTEGRATOR
IC401 (1/2) Q407,409
CAPSTAN PWM
LPF
IC404
CAPSTAN MOTOR DRIVER
IC301
ATF SERVO
IC302
CLOG DET, PB SP/LP DET
CAP UNREG
CN009
M902 CAPSTAN MOTOR
POWER
POWER LED
IC107
SERVO/SYSCON/TIMER
CN001
CN003
CN008
CN002
W801
(See page 113.)
UC-6 BOARD
CN002
CN001
TAPE TOP SENSOR
TAPE LED
T REEL FG SENSOR
TAPE END SENSOR
S REEL FG SENSOR
FP-90 BOARD
FP-89 BOARD
LM DRIVER
M903 LOADING MOTOR
D801 POWER
MODE LED
S801 POWER
KB-10P BOARD
(See page 113.)

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



1
2
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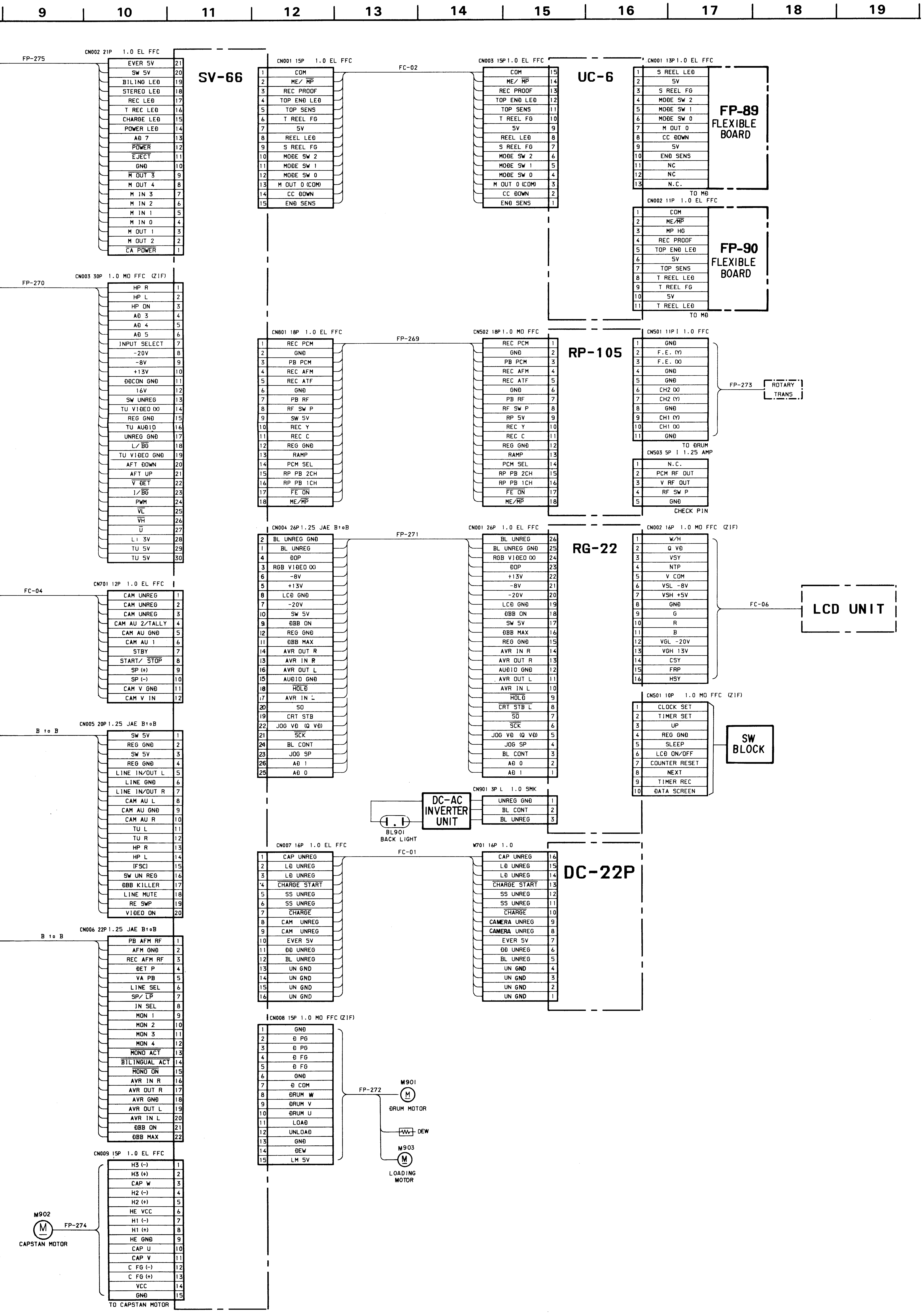
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
KB-10P
CN808 5P 1 1.5 SMK
TEST B 1
GND 2
TEST A 3
TEST C 4
TEST D 5
TEST PIN
W801 21P 0.8
1 EVER 5V
2 SW 5V
3 BILING LED
4 STEREO LED
5 REC LED
6 TIMER REC LED
7 CHARGE LED
8 POWER LED
9 AD 7
10 POWER SW
11 EJECT SW
12 GND
13 M OUT 3
14 M OUT 4
15 M IN 3
16 M IN 2
17 M IN 1
18 M IN 0
19 M OUT 1
20 M OUT 2
21 CA POWER
FP-275
CN002 21P 1.0 EL FFC
EVER 5V 21
SW 5V 20
BILING LED 19
STEREO LED 18
REC LED 17
T REC LED 16
CHARGE LED 15
POWER LED 14
AD 7 13
POWER 12
EJECT 11
GND 10
M OUT 3 9
M OUT 4 8
M IN 3 7
M IN 2 6
M IN 1 5
M IN 0 4
M OUT 1 3
M OUT 2 2
CA POWER 1
SV-66
SB-3P
CN901 7P 1.0 MO FFC (NONZIF)
1 GND
2 AD 3
3 STEREO
4 AD 4
5 AD 5
6 AD 3A
7 INPUT SELECT
FC-05
CN002 7P 1.0 EL FFC
GND 7
AD 3 6
STEREO 5
AD 4 4
AD 5 3
AD 3A 2
INPUT SELECT 1
TU-126
CN003 2P
-8V 1
UNREG GND 2
TEST PIN
CN001 30P 1.25 JAE BtoB
30 HP R
29 HP L
28 HP ON
27 AD 3
26 AD 4
25 AD 5
24 INPUT SELECT
23 -20V
22 -8V
21 +13V
20 DDCON GND
19 16V
18 SW UNREG
17 TU VIDEO (X)
16 REG GND
15 TU AUDIO
14 UNREG GND
13 L/BG
12 TU VIDEO GND
11 AFT DOWN
10 AFT UP
9 V DET
8 I/BG
7 PWM
6 VL
5 VH
4 U
3 LI 3V
2 TU 5V
1 TU 5V
FP-270
CN003 30P 1.0 MO FFC (ZIF)
HP R 1
HP L 2
HP ON 3
AD 3 4
AD 4 5
AD 5 6
INPUT SELECT 7
-20V 8
-8V 9
+13V 10
DDCON GND 11
16V 12
SW UNREG 13
TU VIDEO (X) 14
REG GND 15
TU AUDIO 16
UNREG GND 17
L/BG 18
TU VIDEO GND 19
AFT DOWN 20
AFT UP 21
V DET 22
I/BG 23
PWM 24
VL 25
VH 26
U 27
LI 3V 28
TU 5V 29
TU 5V 30
SPEAKER
CN602 2P L 1.5 SMK
SP (+) 1
SP (-) 2
CN-6P
CN601 12P 1.0 MO FFC (NONZIF)
1 CAM UNREG
2 CAM UNREG
3 CAM UNREG
4 CAM AU 2/TALLY
5 CAM AU GND
6 CAM AU 1
7 CAM STBY
8 START/STOP
9 SP (+)
10 SP (-)
11 CAM V IN GND
12 CAM V IN
FC-04
CN701 12P 1.0 EL FFC
CAM UNREG 1
CAM UNREG 2
CAM UNREG 3
CAM AU 2/TALLY 4
CAM AU GND 5
CAM AU 1 6
STBY 7
START/STOP 8
SP (+) 9
SP (-) 10
CAM V GND 11
CAM V IN 12
AU-98
CN101 20P 1.25 JAE BtoB
1 SW 5V
2 REG GND
3 SW 5V
4 REG GND
5 LINE IN·OUT L
6 LINE GND
7 LINE IN·OUT R
8 CAM AU L
9 CAM AU GND
10 CAM AU R
11 TU L
12 TU R
13 HP R
14 HP L
15 (FSC)
16 SW UN REG
17 DBB KILLER
18 LINE MUTE
19 RE SWP
20 VIDEO ON
B to B
CN005 20P 1.25 JAE BtoB
SW 5V 1
REG GND 2
SW 5V 3
REG GND 4
LINE IN/OUT L 5
LINE GND 6
LINE IN/OUT R 7
CAM AU L 8
CAM AU GND 9
CAM AU R 10
TU L 11
TU R 12
HP R 13
HP L 14
(FSC) 15
SW UN REG 16
DBB KILLER 17
LINE MUTE 18
RE SWP 19
VIDEO ON 20
CN102 22P 1.25 JAE BtoB
1 PB AFM RF
2 AFM GND
3 REC AFM RF
4 DET P
5 VA PB
6 LINE SEL
7 SP/LP
8 IN SEL
9 MON 1
10 MON 2
11 MON 3
12 MON 4
13 MONO ACT
14 BILINGUAL ACT
15 MONO ON
16 AVR IN R
17 AVR OUT R
18 AVR GND
19 AVR OUT L
20 AVR IN L
21 DBB ON
22 DBB MAX
B to B
CN006 22P 1.25 JAE BtoB
PB AFM RF 1
AFM GND 2
REC AFM RF 3
DET P 4
VA PB 5
LINE SEL 6
SP/LP 7
IN SEL 8
MON 1 9
MON 2 10
MON 3 11
MON 4 12
MONO ACT 13
BILINGUAL ACT 14
MONO ON 15
AVR IN R 16
AVR OUT R 17
AVR GND 18
AVR OUT L 19
AVR IN L 20
DBB ON 21
DBB MAX 22
CN009 15P 1.0 EL FFC
H3 (-) 1
H3 (+) 2
CAP W 3
H2 (-) 4
H2 (+) 5
HE VCC 6
H1 (-) 7
H1 (+) 8
HE GND 9
CAP U 10
CAP V 11
C FG (-) 12
C FG (+) 13
VCC 14
GND 15
TO CAPSTAN MOTOR
M902
M
CAPSTAN MOTOR
FP-274


9
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17
18
19
SV-66
FP-275
CN002 21P 1.0 EL FFC
EVER 5V 21
SW 5V 20
BILING LED 19
STEREO LED 18
REC LED 17
T REC LED 16
CHARGE LED 15
POWER LED 14
AD 7 13
POWER 12
EJECT 11
GND 10
M OUT 3 9
M OUT 4 8
M IN 3 7
M IN 2 6
M IN 1 5
M IN 0 4
M OUT 1 3
M OUT 2 2
CA POWER 1
FP-270
CN003 30P 1.0 MO FFC (ZIF)
HP R 1
HP L 2
HP ON 3
AD 3 4
AD 4 5
AD 5 6
INPUT SELECT 7
-20V 8
-8V 9
+13V 10
DDCON GND 11
16V 12
SW UNREG 13
TU VIDEO (X) 14
REG GND 15
TU AUDIO 16
UNREG GND 17
L/BG 18
TU VIDEO GND 19
AFT DOWN 20
AFT UP 21
V DET 22
I/BG 23
PWM 24
VL 25
VH 26
U 27
LI 3V 28
TU 5V 29
TU 5V 30
FC-04
CN701 12P 1.0 EL FFC
CAM UNREG 1
CAM UNREG 2
CAM UNREG 3
CAM AU 2/TALLY 4
CAM AU GND 5
CAM AU 1 6
STBY 7
START/ STOP 8
SP (+) 9
SP (-) 10
CAM V GND 11
CAM V IN 12
B to B
CN005 20P 1.25 JAE BtoB
SW 5V 1
REG GND 2
SW 5V 3
REG GND 4
LINE IN/OUT L 5
LINE GND 6
LINE IN/OUT R 7
CAM AU L 8
CAM AU GND 9
CAM AU R 10
TU L 11
TU R 12
HP R 13
HP L 14
(FSC) 15
SW UN REG 16
DBB KILLER 17
LINE MUTE 18
RE SWP 19
VIDEO ON 20
B to B
CN006 22P 1.25 JAE BtoB
PB AFM RF 1
AFM GND 2
REC AFM RF 3
DET P 4
VA PB 5
LINE SEL 6
SP/ LP 7
IN SEL 8
MON 1 9
MON 2 10
MON 3 11
MON 4 12
MONO ACT 13
BILINGUAL ACT 14
MONO ON 15
AVR IN R 16
AVR OUT R 17
AVR GND 18
AVR OUT L 19
AVR IN L 20
DBB ON 21
DBB MAX 22
CN009 15P 1.0 EL FFC
M902
FP-274
CAPSTAN MOTOR
H3 (-) 1
H3 (+) 2
CAP W 3
H2 (-) 4
H2 (+) 5
HE VCC 6
H1 (-) 7
H1 (+) 8
HE GND 9
CAP U 10
CAP V 11
C FG (-) 12
C FG (+) 13
VCC 14
GND 15
TO CAPSTAN MOTOR
CN001 15P 1.0 EL FFC
1 COM
2 ME/ MP
3 REC PROOF
4 TOP END LED
5 TOP SENS
6 T REEL FG
7 5V
8 REEL LED
9 S REEL FG
10 MODE SW 2
11 MODE SW 1
12 MODE SW 0
13 M OUT 0 (COM)
14 CC DOWN
15 END SENS
FC-02
CN003 15P 1.0 EL FFC
COM 15
ME/ MP 14
REC PROOF 13
TOP END LED 12
TOP SENS 11
T REEL FG 10
5V 9
REEL LED 8
S REEL FG 7
MODE SW 2 6
MODE SW 1 5
MODE SW 0 4
M OUT 0 (COM) 3
CC DOWN 2
END SENS 1
UC-6
CN001 13P 1.0 EL FFC
1 S REEL LED
2 5V
3 S REEL FG
4 MODE SW 2
5 MODE SW 1
6 MODE SW 0
7 M OUT 0
8 CC DOWN
9 5V
10 END SENS
11 NC
12 NC
13 N.C.
FP-89
FLEXIBLE BOARD
TO MD
CN002 11P 1.0 EL FFC
1 COM
2 ME/MP
3 MP HG
4 REC PROOF
5 TOP END LED
6 5V
7 TOP SENS
8 T REEL LED
9 T REEL FG
10 5V
11 T REEL LED
FP-90
FLEXIBLE BOARD
TO MD
CN801 18P 1.0 EL FFC
1 REC PCM
2 GND
3 PB PCM
4 REC AFM
5 REC ATF
6 GND
7 PB RF
8 RF SW P
9 SW 5V
10 REC Y
11 REC C
12 REG GND
13 RAMP
14 PCM SEL
15 RP PB 2CH
16 RP PB 1CH
17 FE ON
18 ME/MP
FP-269
CN502 18P 1.0 MO FFC
REC PCM 1
GND 2
PB PCM 3
REC AFM 4
REC ATF 5
GND 6
PB RF 7
RF SW P 8
RP 5V 9
REC Y 10
REC C 11
REG GND 12
RAMP 13
PCM SEL 14
RP PB 2CH 15
RP PB 1CH 16
FE ON 17
ME/MP 18
RP-105
CN501 11P I 1.0 FFC
1 GND
2 F.E. (Y)
3 F.E. (X)
4 GND
5 GND
6 CH2 (X)
7 CH2 (Y)
8 GND
9 CH1 (Y)
10 CH1 (X)
11 GND
TO DRUM
FP-273
ROTARY TRANS
CN503 5P I 1.25 AMP
1 N.C.
2 PCM RF OUT
3 V RF OUT
4 RF SW P
5 GND
CHECK PIN
CN004 26P 1.25 JAE BtoB
2 BL UNREG GND
1 BL UNREG
4 DDP
3 RGB VIDEO (X)
6 -8V
5 +13V
8 LCD GND
7 -20V
10 SW 5V
9 DBB ON
12 REG GND
11 DBB MAX
14 AVR OUT R
13 AVR IN R
16 AVR OUT L
15 AUDIO GND
18 HOLD
17 AVR IN L
20 SO
19 CRT STB
22 JOG VD (Q VD)
21 SCK
24 BL CONT
23 JOG SP
26 AD 1
25 AD 0
FP-271
CN001 26P 1.0 EL FFC
BL UNREG 26
BL UNREG GND 25
RGB VIDEO (X) 24
DDP 23
+13V 22
-8V 21
-20V 20
LCD GND 19
DBB ON 18
SW 5V 17
DBB MAX 16
REG GND 15
AVR IN R 14
AVR OUT R 13
AUDIO GND 12
AVR OUT L 11
AVR IN L 10
HOLD 9
CRT STB L 8
SO 7
SCK 6
JOG VD (Q VD) 5
JOG SP 4
BL CONT 3
AD 0 2
AD 1 1
RG-22
CN002 16P 1.0 MO FFC (ZIF)
1 W/H
2 Q VD
3 VSY
4 NTP
5 V COM
6 VSL -8V
7 VSH +5V
8 GND
9 G
10 R
11 B
12 VGL -20V
13 VGH 13V
14 CSY
15 FRP
16 HSY
FC-06
LCD UNIT
CN501 10P 1.0 MO FFC (ZIF)
1 CLOCK SET
2 TIMER SET
3 UP
4 REG GND
5 SLEEP
6 LCD ON/OFF
7 COUNTER RESET
8 NEXT
9 TIMER REC
10 DATA SCREEN
SW BLOCK
CN901 3P L 1.0 SMK
UNREG GND 1
BL CONT 2
BL UNREG 3
DC-AC INVERTER UNIT
BL901
BACK LIGHT
CN007 16P 1.0 EL FFC
1 CAP UNREG
2 LD UNREG
3 LD UNREG
4 CHARGE START
5 SS UNREG
6 SS UNREG
7 CHARGE
8 CAM UNREG
9 CAM UNREG
10 EVER 5V
11 DD UNREG
12 BL UNREG
13 UN GND
14 UN GND
15 UN GND
16 UN GND
FC-01
W701 16P 1.0
CAP UNREG 16
LD UNREG 15
LD UNREG 14
CHARGE START 13
SS UNREG 12
SS UNREG 11
CHARGE 10
CAMERA UNREG 9
CAMERA UNREG 8
EVER 5V 7
DD UNREG 6
BL UNREG 5
UN GND 4
UN GND 3
UN GND 2
UN GND 1
DC-22P
CN008 15P 1.0 MO FFC (ZIF)
1 GND
2 D PG
3 D PG
4 D FG
5 D FG
6 GND
7 D COM
8 DRUM W
9 DRUM V
10 DRUM U
11 LOAD
12 UNLOAD
13 GND
14 DEW
15 LM 5V
FP-272
M901
DRUM MOTOR
DEW
M903
LOADING MOTOR

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

- **For printed wiring boards.**
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.
- Circled numbers refer to waveforms.
- The part codes and the part names for correction of the semiconductor on the print board are described in the space of each print figure. Please use it when ordering parts.

- **For schematic diagram.**
- **Caution when replacing chip parts.**
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
  kΩ: 1000Ω, MΩ: 1000kΩ.

- All capacitors are in μF unless otherwise noted. pF : μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ☐ : panel designation.
- △ : internal component.
- ☐ : adjustment for repair.
- ━━ : B + Line
- ‐ ‐ ‐ : B − Line.
- Circled numbers refer to waveforms.
- ⇨ : IN/OUT direction of B (+, −) line.
- The voltage value is the reference value to the ground when the color bar signal (RF signal) is input tuner from the color bar generator. (Tester for use : DC10mΩ)
- When measuring the SV-66 board, the measurement is performed without the AU-98 board.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

[TEST MODE]
This unit selects the test mode by shorting and openting the terminals of CN802 on the KB-10P BOARD. When servicing, attaching the "test mode set jig" (J-6082-110-A) to the CN802 allows to select twelve types of test mode with the hexadecimal selecting switches.
See to"3-8. Test Mode" on page 41 for details.

IC

IC501	8-752-033-38	IC CXA1202R

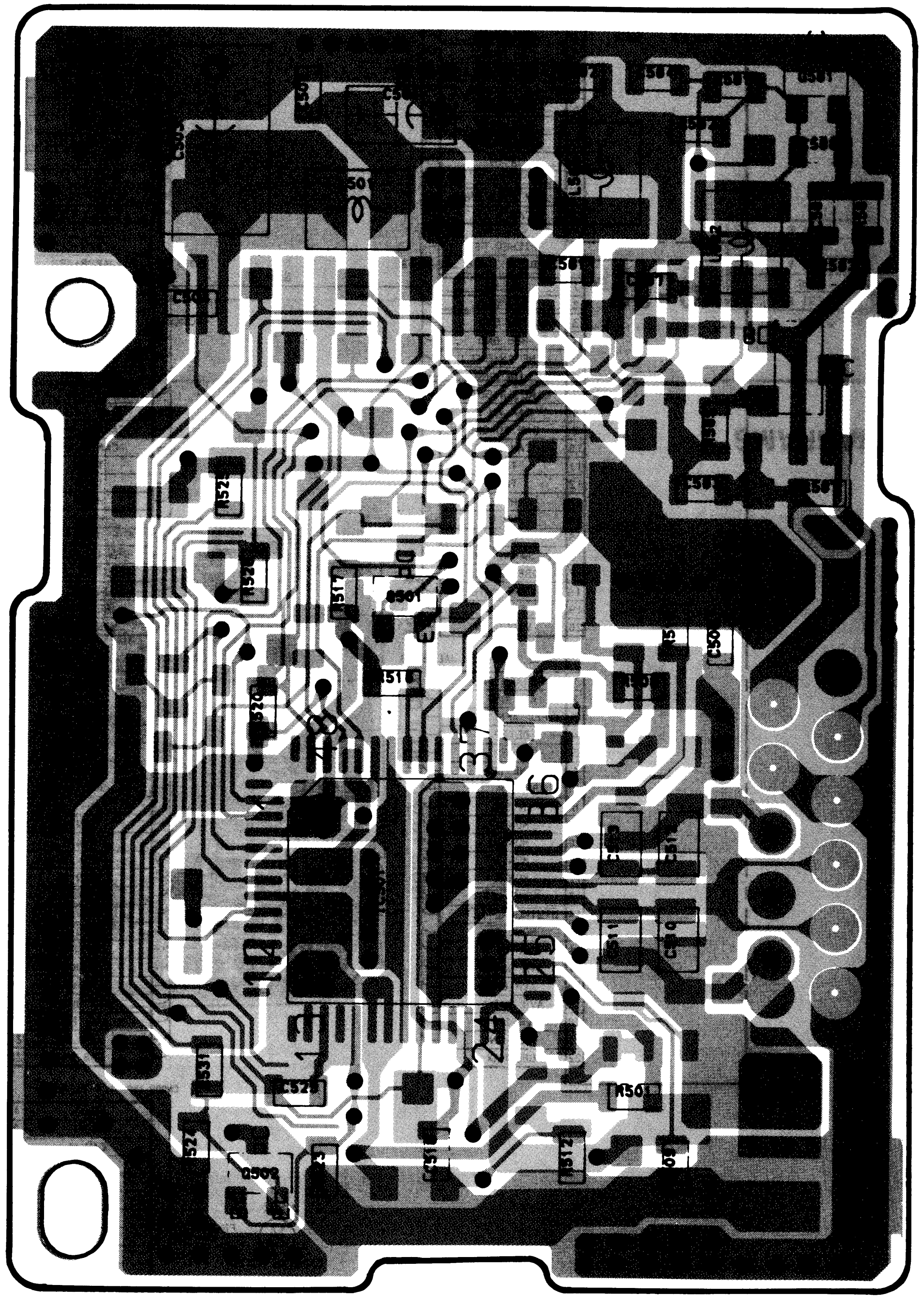
TRANSISTOR

Q501	8-729-905-12	TRANSISTOR DTA144EU
Q502	8-729-905-35	TRANSISTOR 2SC4081R
Q581	8-729-905-23	TRANSISTOR 2SA1576R
Q582	8-729-820-76	TRANSISTOR 2SA1179-M5M6

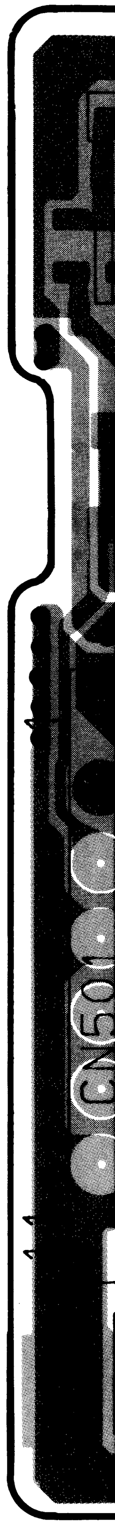
RP-105 (REC/PB AMP) PRINTED WIRING BOARD

— Ref. No, RP-105 BOARD : 1000 series —

RP-105 BOARD (CONDUCTOR SIDE)



04



RP-105 (REC/PB AMP) PRINTED WIRING BOARD

— Ref. No, RP-105 BOARD : 1000 series —

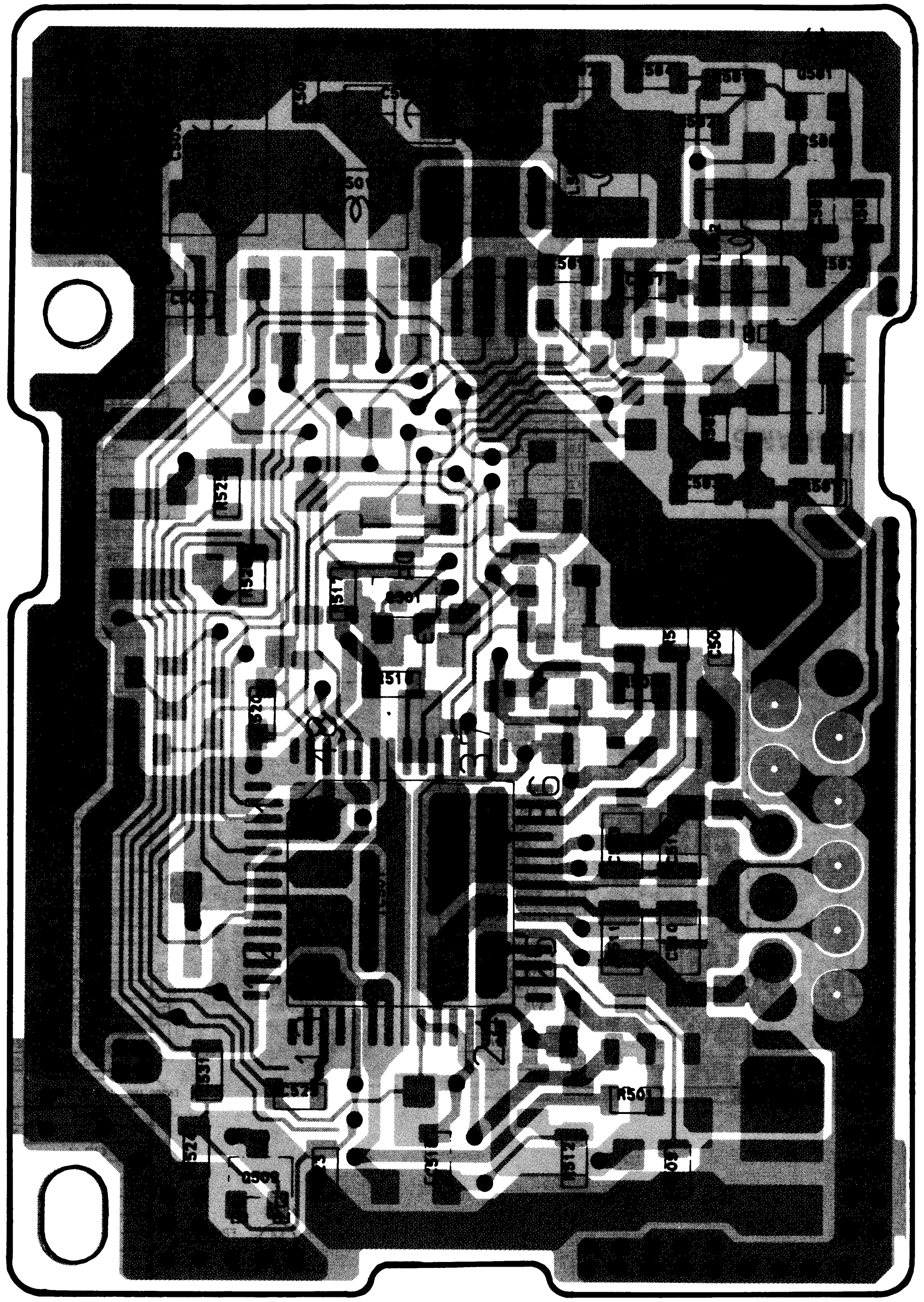
IC

IC501	8-752-033-38	IC CXA1202R

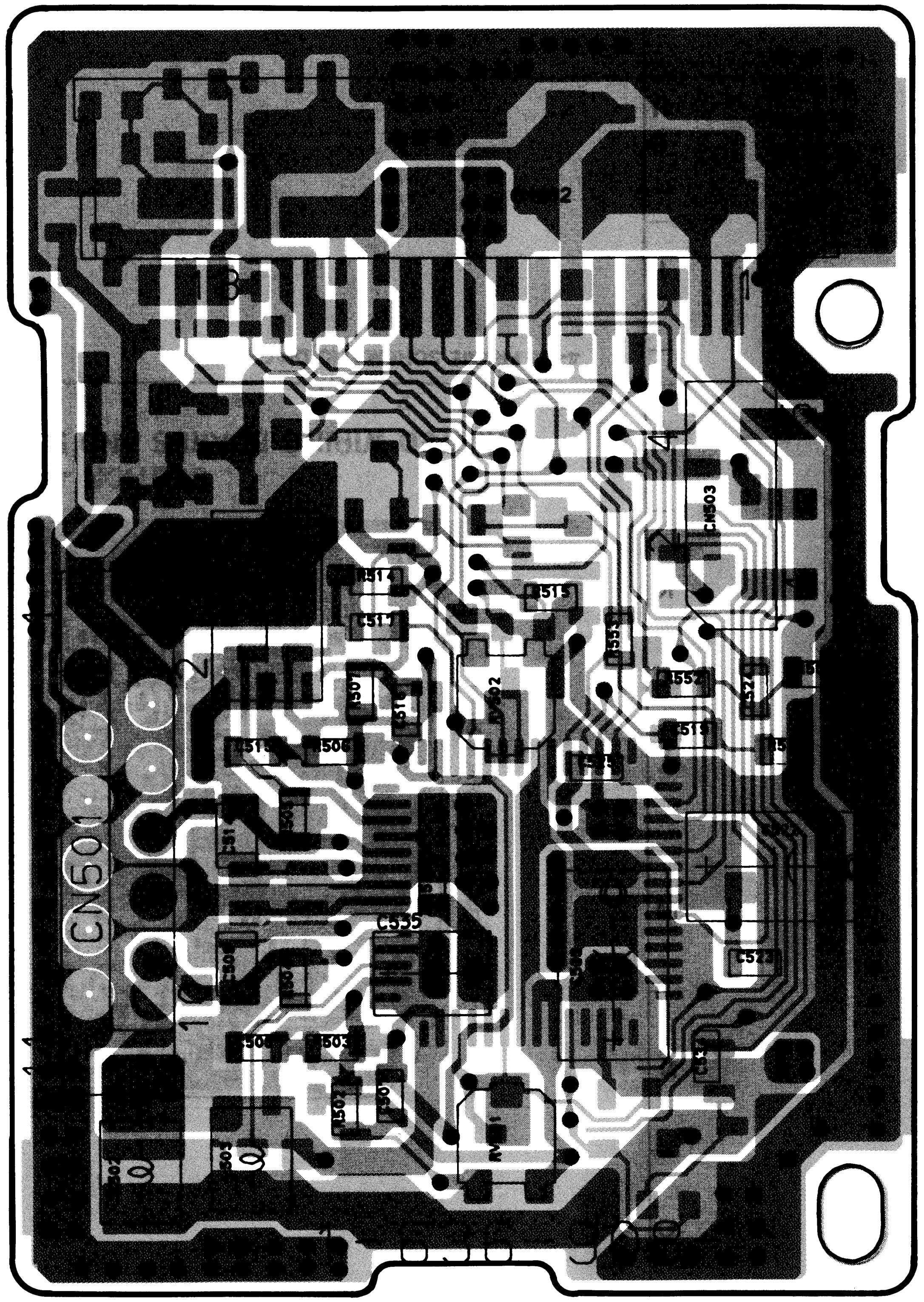
TRANSISTOR

Q501	8-729-905-12	TRANSISTOR DTA144EU
Q502	8-729-905-35	TRANSISTOR 2SC4081R
Q581	8-729-905-23	TRANSISTOR 2SA1576R
Q582	8-729-820-76	TRANSISTOR 2SA1179-M5M6

RP-105 BOARD (CONDUCTOR SIDE)

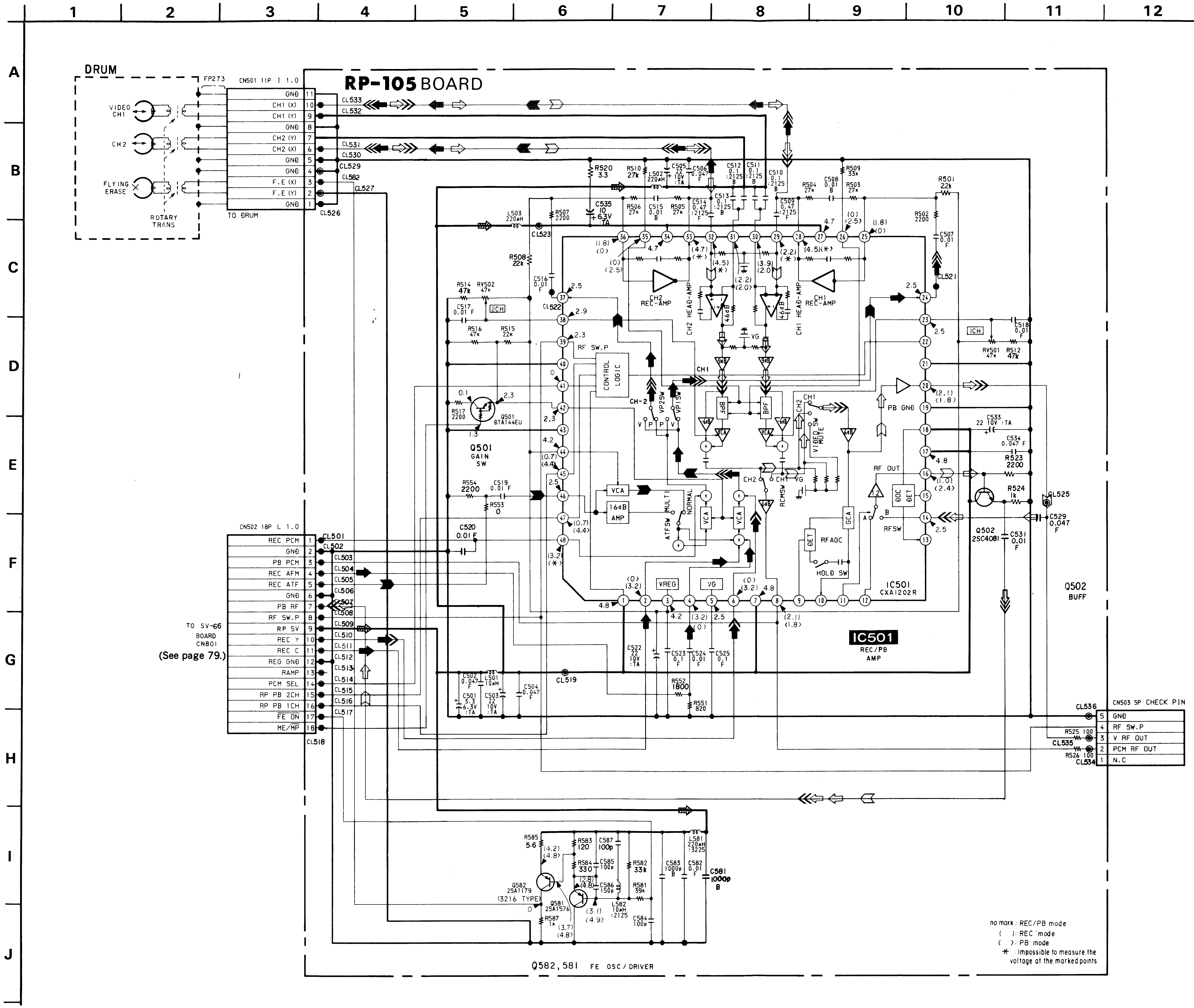


RP-105 BOARD (COMPONENT SIDE)



RP-105 (REC/PB AMP) SCHEMATIC DIAGRAM

— Ref. No, RP-105 BOARD : 1000 series —

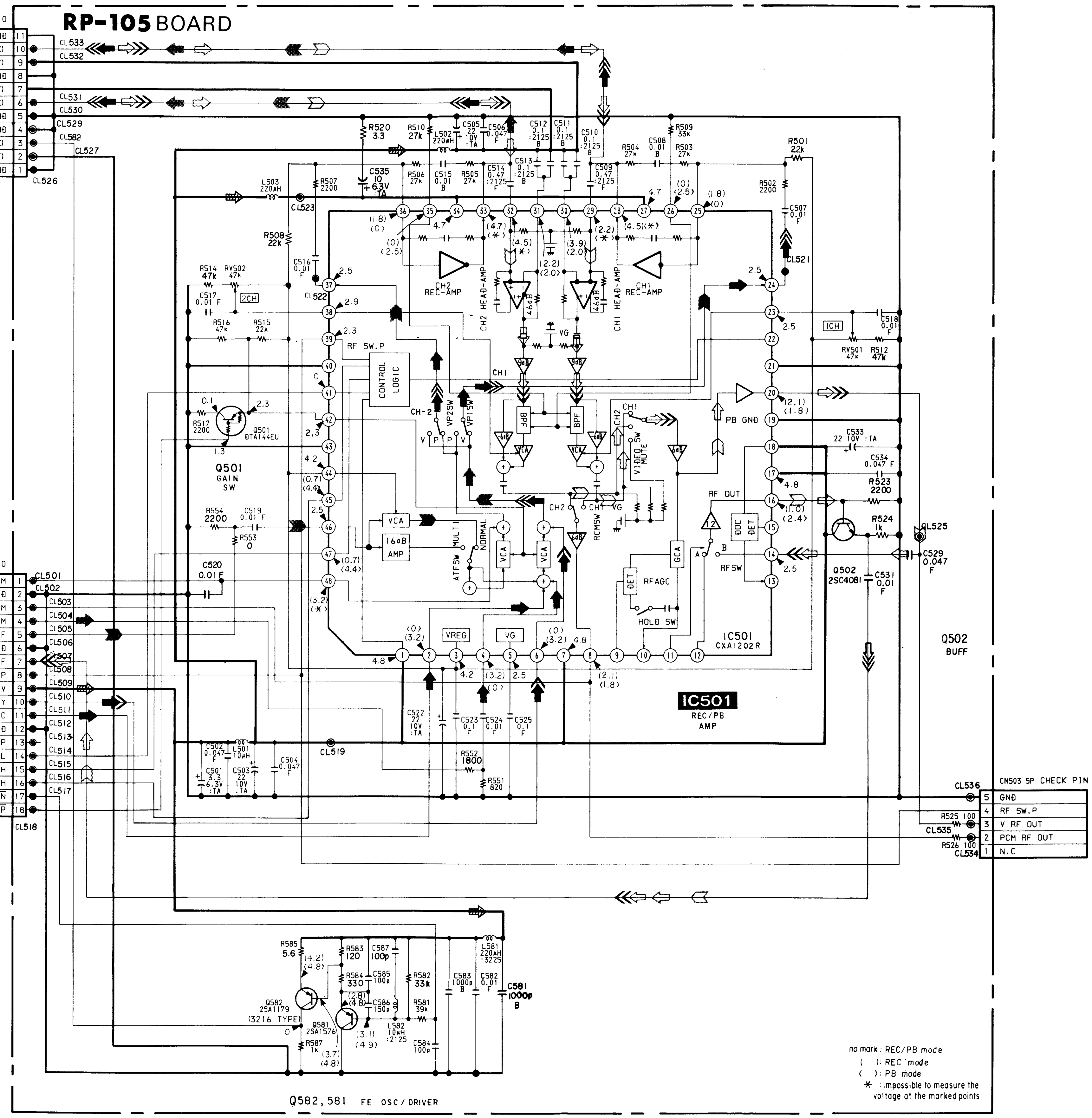

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
DRUM
VIDEO CH1
CH2
FLYING ERASE
ROTARY TRANS
FP273
CN501 11P I 1.0
TO DRUM
RP-105 BOARD
CN502 18P L 1.0
REC PCM
GND
PB PCM
REC AFM
REC ATF
GND
PB RF
RF SW.P
RP 5V
REC Y
REC C
REG GND
RAMP
PCM SEL
RP PB 2CH
RP PB 1CH
FE ON
ME/MP
TO SV-66 BOARD CN801
(See page 79.)
Q501 GAIN SW
CONTROL LOGIC
CH2 REC-AMP
CH1 REC-AMP
CH2 HEAD-AMP
CH1 HEAD-AMP
VCA
16dB AMP
BPF
VIDEO MUTE
RF OUT
RF AGC
HOLD SW
RFSW
DOC DET
IC501 CXA1202R
IC501 REC/PB AMP
VREG
VG
Q502 2SC4081
Q502 BUFF
CN503 5P CHECK PIN
GND
RF SW.P
V RF OUT
PCM RF OUT
N.C
Q582 2SA1179 (3216 TYPE)
Q581 2SA1576
Q582, 581 FE OSC/DRIVER
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
✳ : Impossible to measure the voltage at the marked points

• Signal path

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB			⇨»»	⇨

• Signal path

	REC	REC/PB	PB
Ref.signal	➤		▷


RP-105 BOARD
IC501
CXA1202R
REC/PB AMP
Q501
BTA144EU
GAIN SW
Q502
2SC4081
BUFF
Q582
2SA1179
Q581
2SA1576
Q582, 581 FE OSC / DRIVER
CH2 REC-AMP
CH1 REC-AMP
CH2 HEAD-AMP
CH1 HEAD-AMP
CONTROL LOGIC
RF SW.P
PB GND
RF OUT
RFSW
RFAGC
HOLD SW
DOC DET
GCA
VCA
16dB AMP
ATFSW
MULTI
NORMAL
VIDEO SW MUTE
RCMSW
BPF
VREG
VG
CN503 5P CHECK PIN
5 GND
4 RF SW.P
3 V RF OUT
2 PCM RF OUT
1 N.C
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
✻ : Impossible to measure the voltage at the marked points

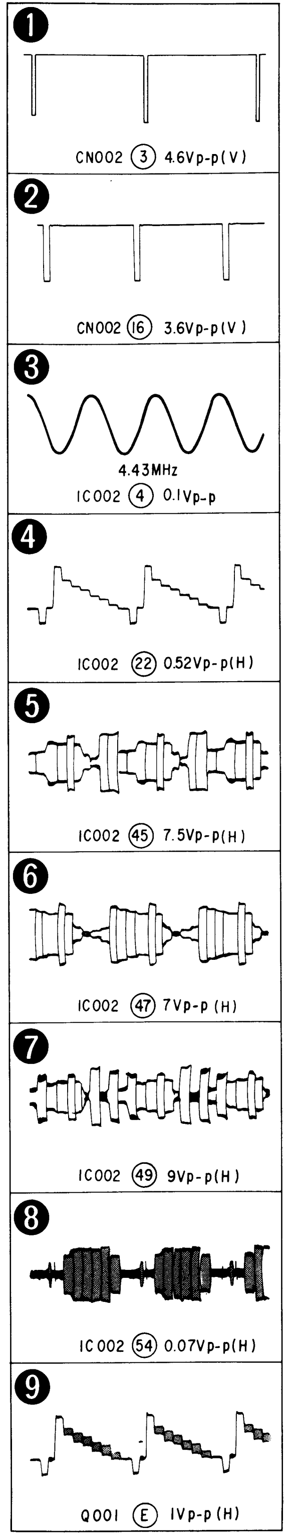
• **Signal path**

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	➡	⇒	⇛	➡
PB			⇨	⇨

• **Signal path**

	REC	REC/PB	PB
Ref.signal	▶		▷

RG-22 BOARD (E-E mode)

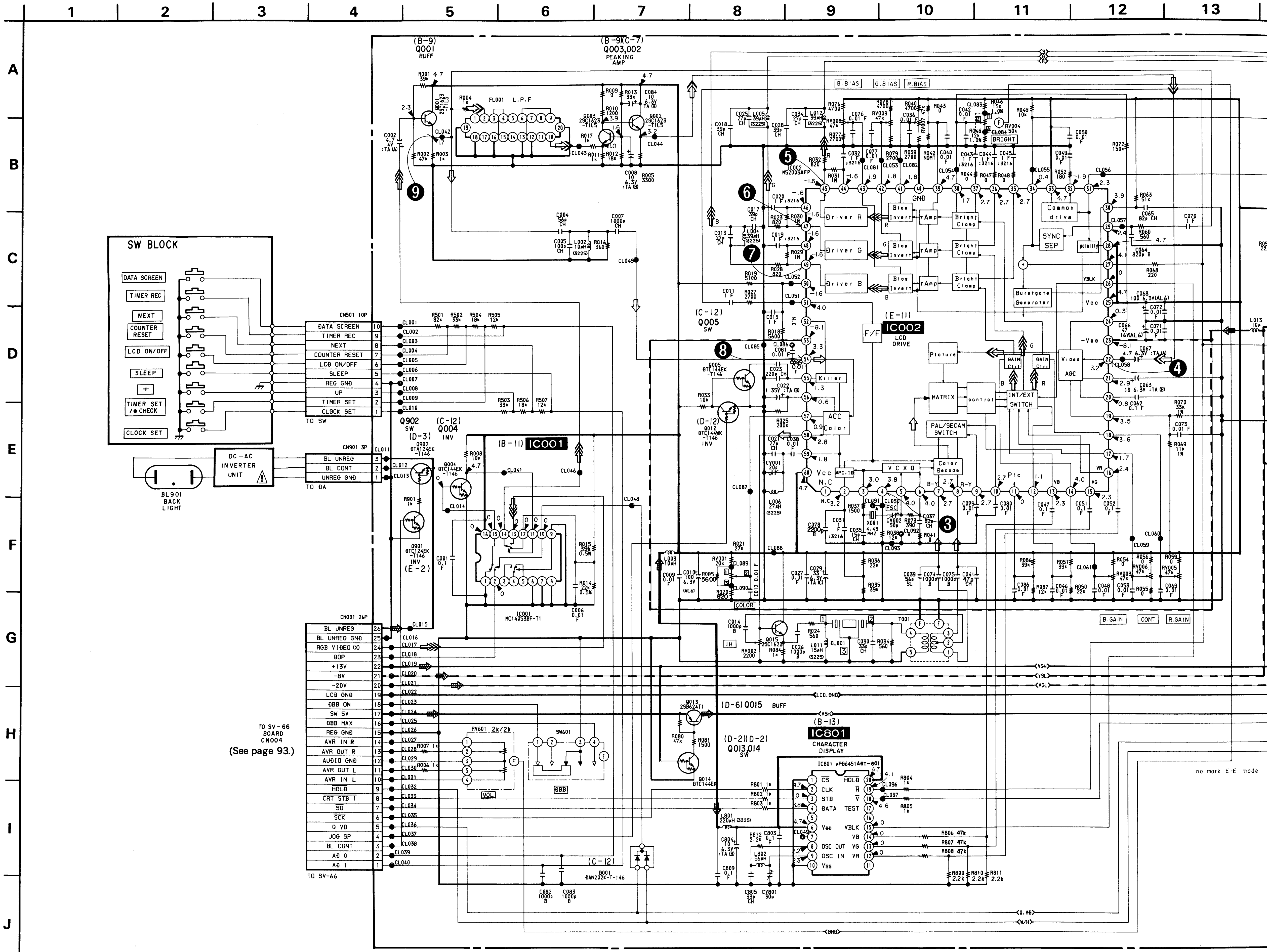


• **Signal path**

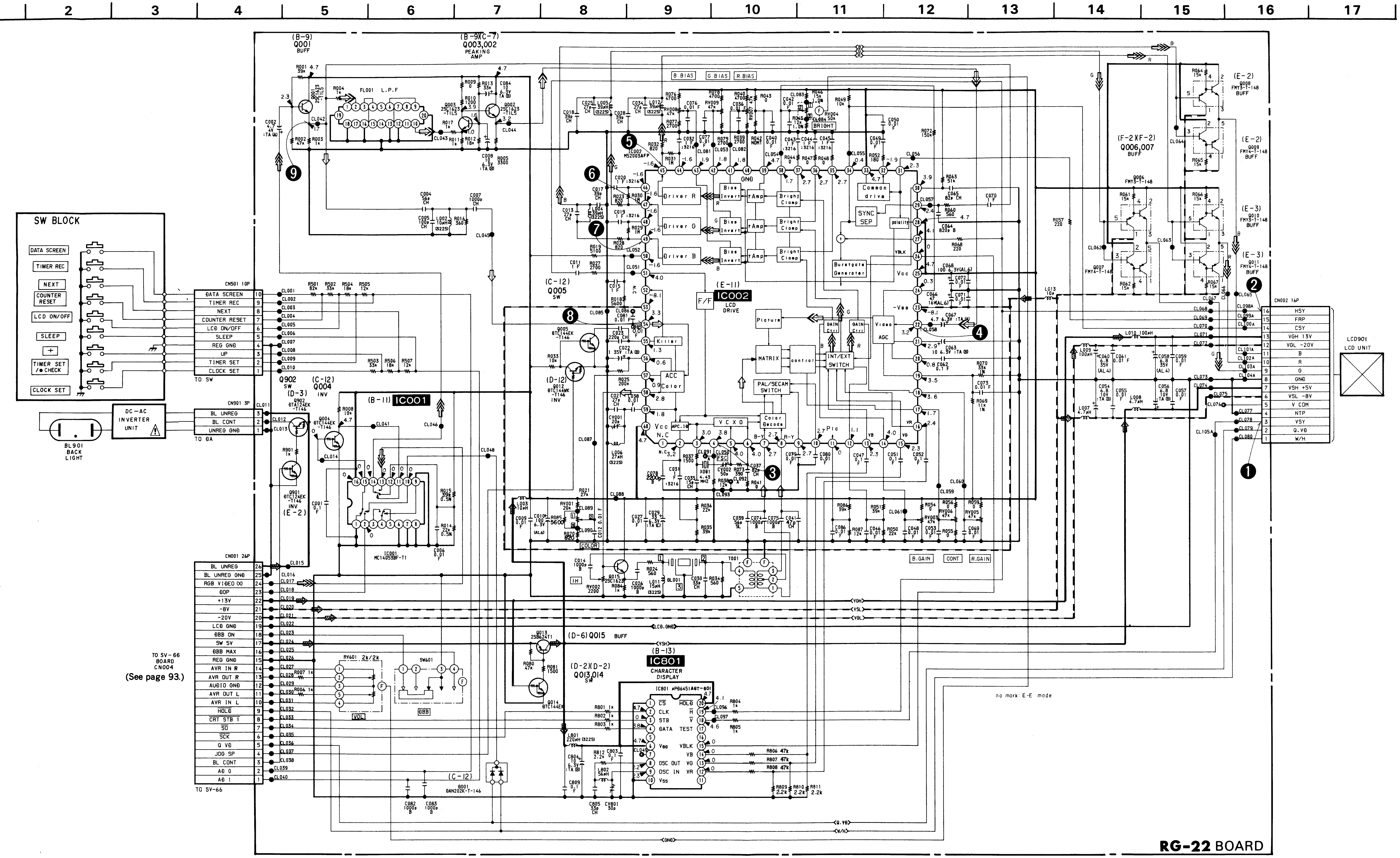
	VIDEO Signal		
	CHROMA	Y	Y/CHROMA
PB	⇨	⇨⇨	⇨⇨⇨

RG-22 (LCD VIDEO (R. G. B.)) SCHEMATIC DIAGRAM

— Ref. No, RG-22 BOARD : 2000 series —

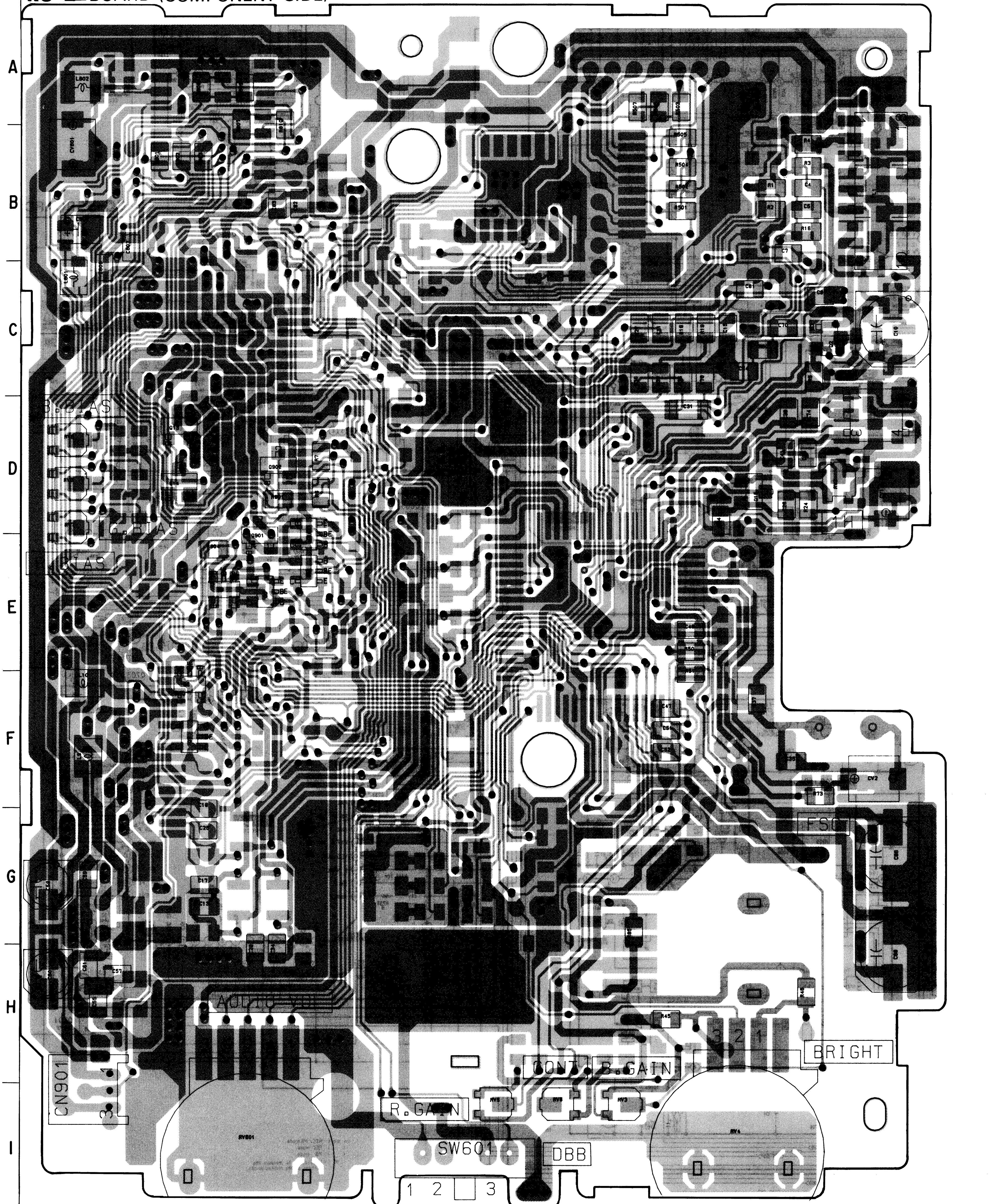


1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I J
SW BLOCK
DATA SCREEN
TIMER REC
NEXT
COUNTER RESET
LCD ON/OFF
SLEEP
TIMER SET /● CHECK
CLOCK SET
CN501 10P
TO SW
DC-AC INVERTER UNIT
BL901 BACK LIGHT
CN901 3P
BL UNREG
BL CONT
UNREG GND
TO BA
CN001 26P
TO SV-66 BOARD CN004
(See page 93.)
TO SV-66
BL UNREG
BL UNREG GND
RGB VIDEO OO
BOP
+13V
-8V
-20V
LCD GND
BBB ON
SW 5V
BBB MAX
REG GND
AVR IN R
AVR OUT R
AUDIO GND
AVR OUT L
AVR IN L
HOLD
CRT STB 1
SO
SCK
Q VD
JOG SP
BL CONT
AD 0
AD 1
(B-9) Q001 BUFF
(B-9)(C-7) Q003,002 PEAKING AMP
FL001 L.P.F
Q902 SW (D-3)
(C-12) Q004 INV
(B-11) IC001
IC001 MC14053BF-T1
Q901 INV (E-2)
RV601 2k/2k
SW601
VOL
BBB
(C-12) Q005 SW
(D-12) Q012 INV
(E-11) IC002 LCD DRIVE
IC002 M52003AFP
B.BIAS
G.BIAS
R.BIAS
BRIGHT
Driver R
Driver G
Driver B
Bias Invert
Bright Clamp
Common drive
SYNC SEP
polarity
Burstgate Generator
Video AGC
GAIN Ctrl
INT/EXT SWITCH
MATRIX
control
Picture
F/F
Killer
ACC
Color
PAL/SECAM SWITCH
Color Decode
VCXO
APC
Vcc
N.C
GND
Vee
-Vee
COLOR
B.GAIN
CONT
R.GAIN
(D-6) Q015 BUFF
Q013 2SB624T1
(D-2)(D-2) Q013,014 SW
(B-13) IC801 CHARACTER DISPLAY
IC801 μPD6451AGT-601
CS
CLK
STB
DATA
TEST
HOLD
VBLK
VB
VG
VR
OSC OUT
OSC IN
Vss
D001 DAN202K-T-146
T001
(C-12)
VGH
VSL
VGL
LCD GND
VSH
Q.VD
W/H
GND
no mark: E-E mode

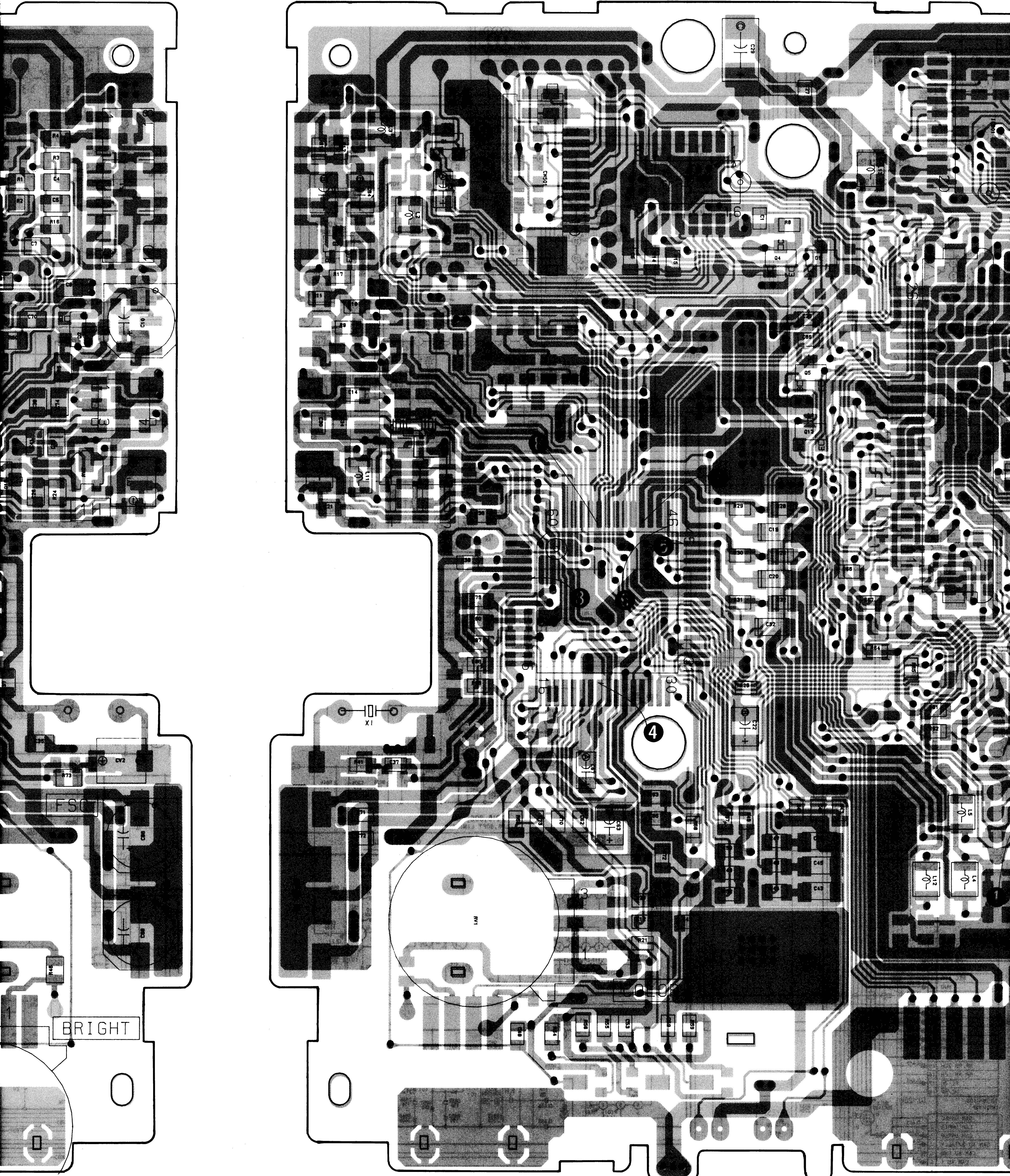

2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
SW BLOCK
DATA SCREEN
TIMER REC
NEXT
COUNTER RESET
LCD ON/OFF
SLEEP
TIMER SET / ● CHECK
CLOCK SET
CN501 10P
TO SW
DC-AC INVERTER UNIT
BL901 BACK LIGHT
CN901 3P
TO 8A
BL UNREG
BL CONT
UNREG GND
CN001 26P
TO SV-66 BOARD CN004
(See page 93.)
TO SV-66
(B-9) Q001 BUFF
(B-9)(C-7) Q003,002 PEAKING AMP
FL001 L.P.F
(B-11) IC001
IC001 MC14053BF-T1
Q902 SW (D-3)
(C-12) Q004 INV
Q901 DTC124EK-T146 INV (E-2)
(C-12) Q005 SW
(D-12) Q012 DTC144WK-T146 INV
(E-11) IC002 LCD DRIVE
IC002 M52003AFP
Driver R
Driver G
Driver B
Bias Invert
Amp
Bright Clamp
Common drive
SYNC SEP
Burstgate Generator
Video AGC
Picture
MATRIX
control
INT/EXT SWITCH
PAL/SECAM SWITCH
Color Decode
ACC Color
Killer
APC-1
VCXO
B.BIAS
G.BIAS
R.BIAS
BRIGHT
COLOR
B.GAIN
CONT
R.GAIN
(D-6) Q015 BUFF
(D-2)(D-2) Q013,014 SW
(B-13) IC801 CHARACTER DISPLAY
IC801 μPD6451AGT-601
RV601 2k/2k
VOL
SW601
BBB
D001 DAN202K-T-146
(F-2)(F-2) Q006,007 BUFF
(E-2) Q008 FMY3-1-148 BUFF
(E-2) Q009 FMY3-1-148 BUFF
(E-3) Q010 FMY3-1-148 BUFF
(E-3) Q011 FMY4-1-148 BUFF
CN002 16P
HSY
FRP
CSY
VGH 13V
VGL -20V
B
R
G
GND
VSH +5V
VSL -8V
V COM
NTP
VSY
Q.VD
W/H
LCD901 LCD UNIT
no mark: E-E mode
RG-22 BOARD

RG-22 (LCD VIDEO (R. G. B.)) PRINTED WIRING BOARD
— Ref. No, RG-22 BOARD : 2000 series —

RG-22 BOARD (COMPONENT SIDE)


A
B
C
D
E
F
G
H
I
B.BIAS
G.BIAS
R.BIAS
CN901
AUDIO
R.GAIN
SW601
1 2 3
DBB
CONT
B.GAIN
BRIGHT
3 2 1
FSC
RV601
04
1
2
3
4
5
6
7

RG-22 BOARD(CONDUCTOR SIDE)


FSC
BRIGHT
CV2
X1
RV1
CN501
C29
C10
C22
60
46
30
16
15
❶
❸
❹
❺
6
7
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9
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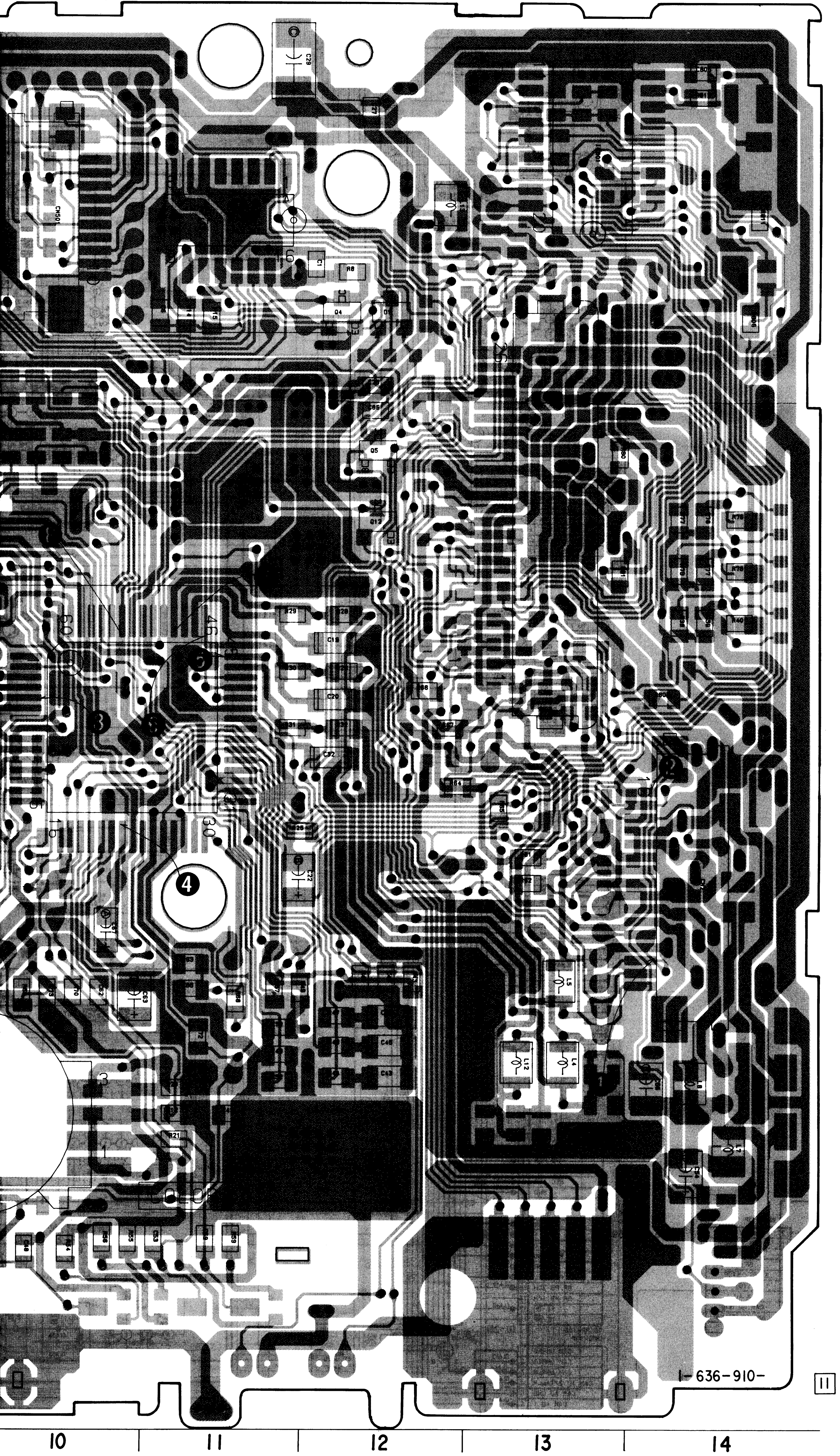
11
12
13

CTOR SIDE)



DIODE

D001	8-719-914-47	DIODE MA152WK

IC

IC001	8-759-009-07	IC MC14053BF
IC002	8-759-635-37	IC M52003AFP
IC801	8-759-150-07	IC UPD6451AGT-601

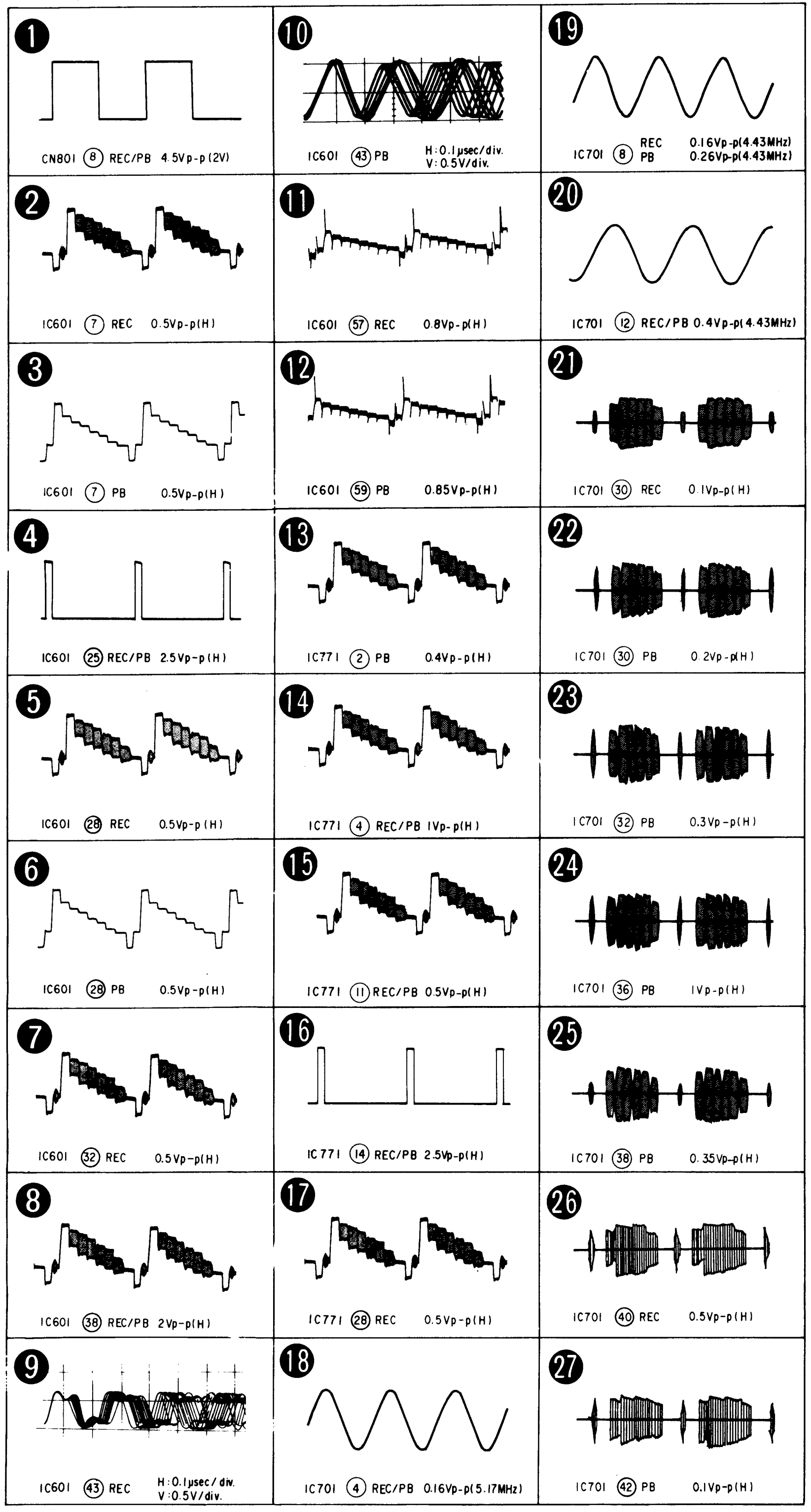
TRANSISTOR

Q001	8-729-100-66	TRANSISTOR 2SC1623
Q002	8-729-100-66	TRANSISTOR 2SC1623
Q003	8-729-100-66	TRANSISTOR 2SC1623
Q004	8-729-901-01	TRANSISTOR DTC144EK
Q005	8-729-901-01	TRANSISTOR DTC144EK
Q006	8-729-904-41	TRANSISTOR FMY3
Q007	8-729-904-44	TRANSISTOR FMY4
Q008	8-729-904-41	TRANSISTOR FMY3
Q009	8-729-904-44	TRANSISTOR FMY4
Q010	8-729-904-41	TRANSISTOR FMY3
Q011	8-729-904-44	TRANSISTOR FMY4
Q012	8-729-901-03	TRANSISTOR DTC144WK
Q013	8-729-141-48	TRANSISTOR 2SB624-BV345
Q014	8-729-901-01	TRANSISTOR DTC144EK
Q015	8-729-100-66	TRANSISTOR 2SC1623
Q901	8-729-901-00	TRANSISTOR DTC124EK
Q902	8-729-901-05	TRANSISTOR DTA124EK

CC-55 (CCD), CN-6P (CAMERA CONNECTOR), SV-66(VIDEO) SCHEMATIC DIAGRAM

— Ref. No, CN-6P BOARD : 3000 series, CC-55 and SV-66 BOARDS : 5000series —

SV-66 BOARD (VIDEO)

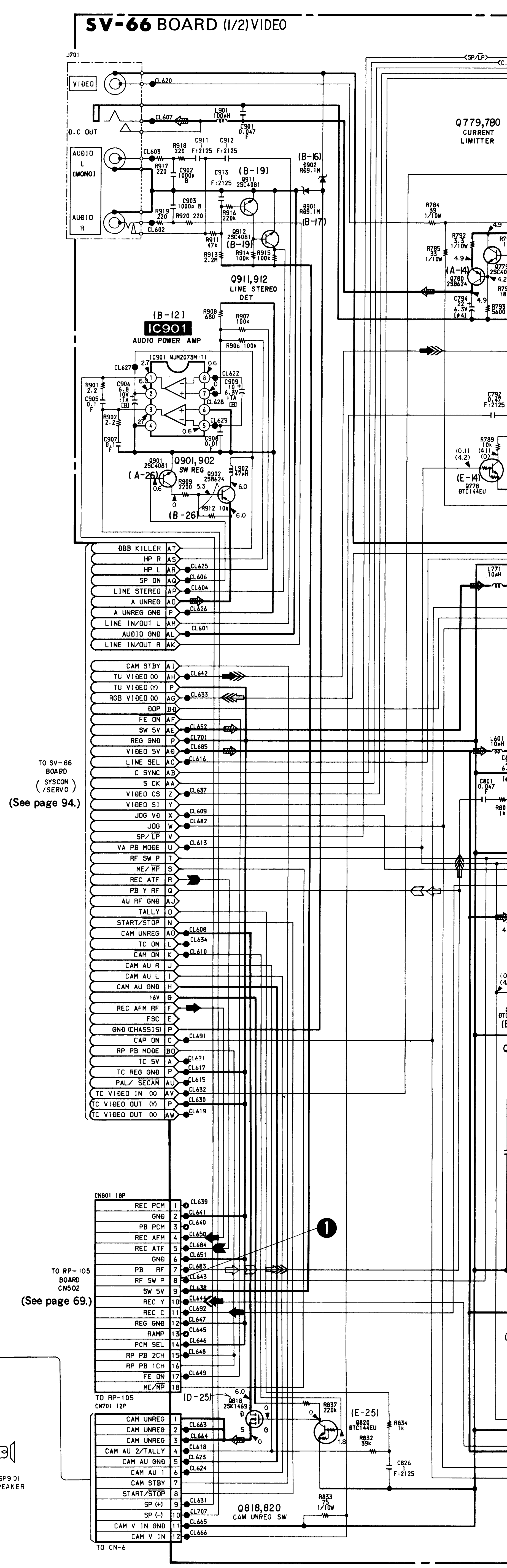


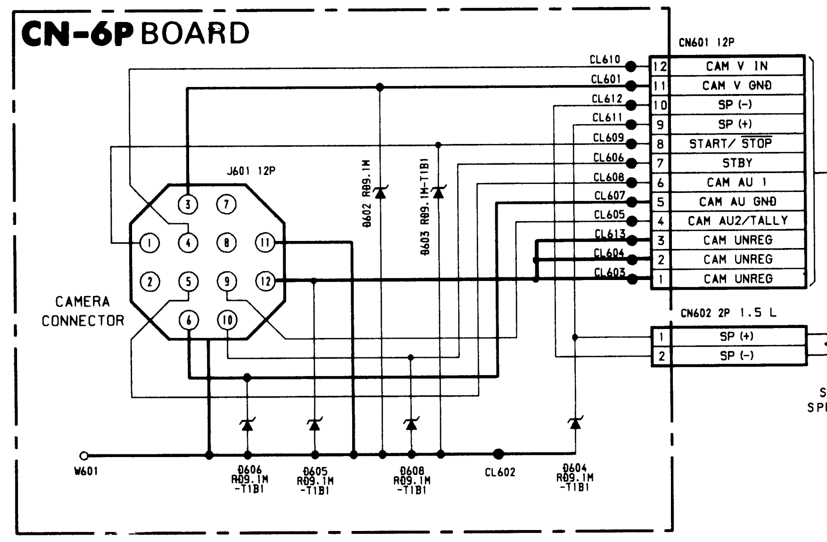
- **Signal path**

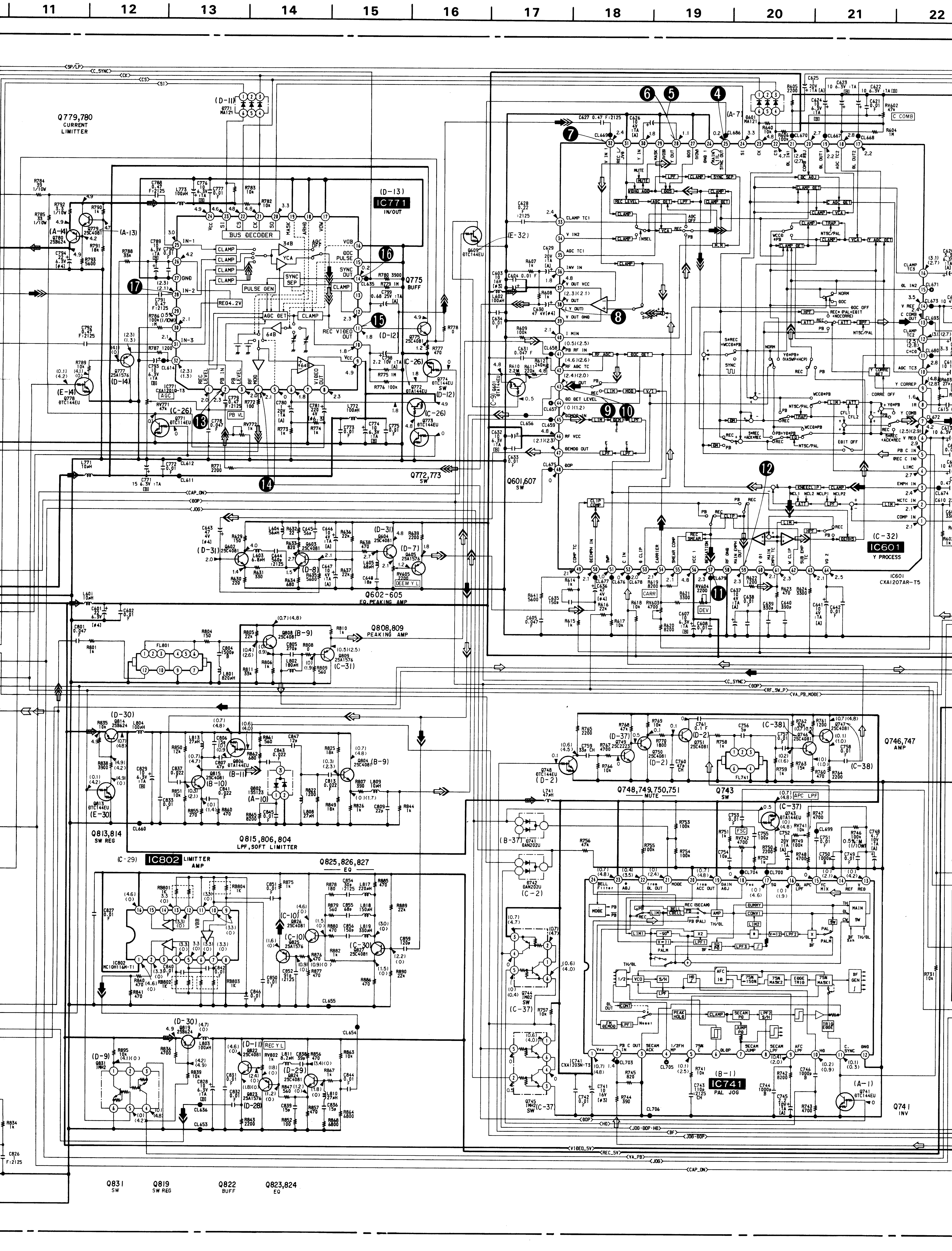
	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡	➡➡➡	➡
PB	⇨	⇨⇨	⇨⇨⇨	⇨

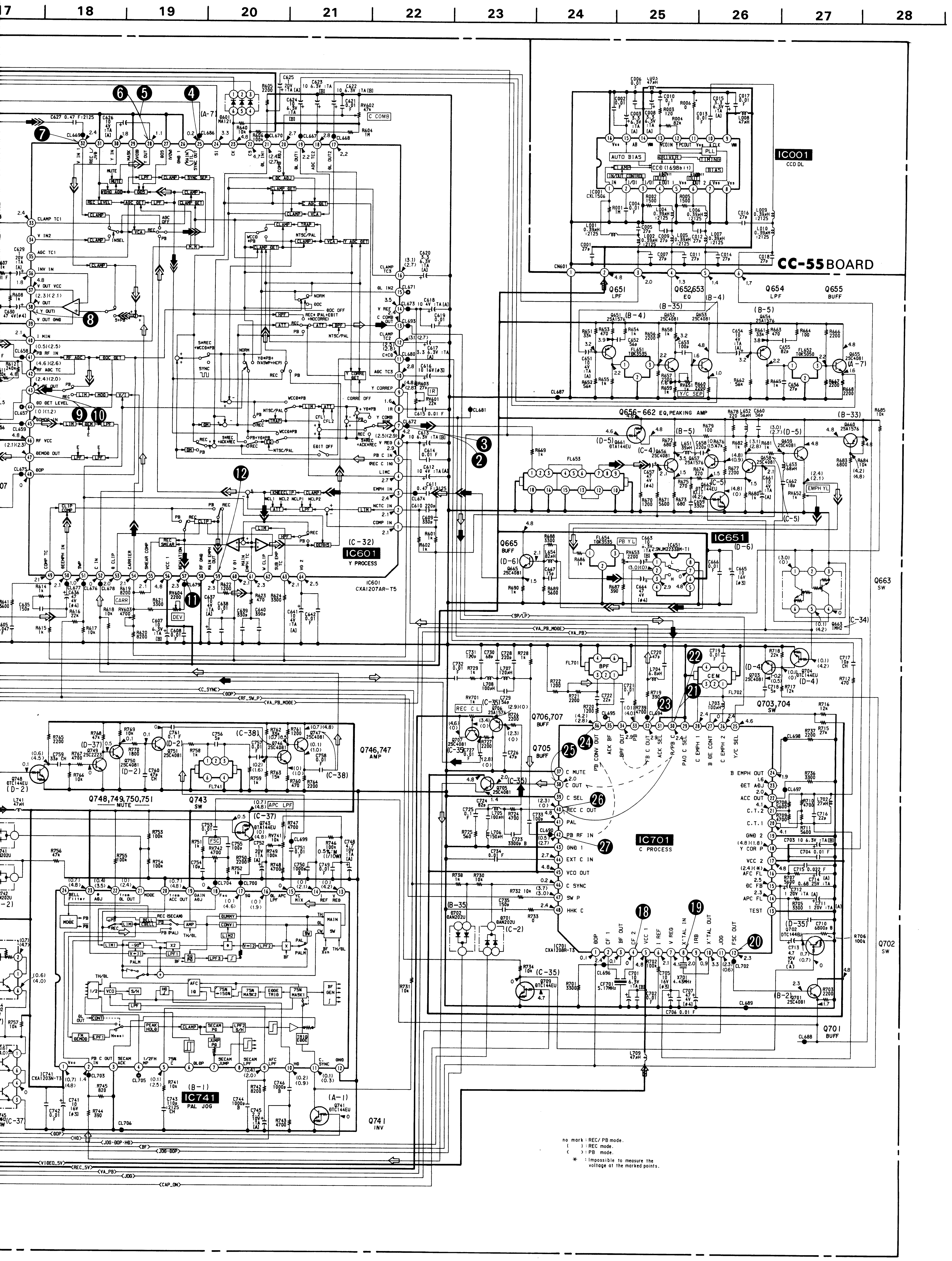
- **Signal path**

	REC	REC/PB	PB
Ref.signal	▶	▶	▷


SV-66 BOARD (1/2) VIDEO
J701
VIDEO
D.C OUT
AUDIO L (MONO)
AUDIO R
Q779,780 CURRENT LIMITTER
Q911,912 LINE STEREO DET
(B-12) IC901 AUDIO POWER AMP
IC901 NJM2073M-T1
Q901,902 SW REG
DBB KILLER AT
HP R AS
HP L AR
SP ON AQ
LINE STEREO AP
A UNREG AO
A UNREG GND P
LINE IN/OUT L AM
AUDIO GND AL
LINE IN/OUT R AK
CAM STBY AI
TU VIDEO (X) AH
TU VIDEO (Y) P
RGB VIDEO (X) AG
DOP BQ
FE ON AF
SW 5V AE
REG GND P
VIDEO 5V AD
LINE SEL AC
C SYNC AB
S CK AA
VIDEO CS Z
VIDEO SI Y
JOG VD X
JOG W
SP/LP V
VA PB MODE U
RF SW P T
ME/MP S
REC ATF R
PB Y RF Q
AU RF GND AJ
TALLY O
START/STOP N
CAM UNREG AD
TC ON L
CAM ON K
CAM AU R J
CAM AU L I
CAM AU GND H
16V G
REC AFM F
FSC E
GND (CHASSIS) P
CAP ON C
RP PB MODE BO
TC 5V A
TC REG GND P
PAL/SECAM AU
TC VIDEO IN (X) AV
TC VIDEO OUT (Y) P
TC VIDEO OUT (X) AW
TO SV-66 BOARD (SYSCON/SERVO) (See page 94.)
CN801 18P
REC PCM 1
GND 2
PB PCM 3
REC AFM 4
REC ATF 5
GND 6
PB RF 7
RF SW P 8
SW 5V 9
REC Y 10
REC C 11
REG GND 12
RAMP 13
PCM SEL 14
RP PB 2CH 15
RP PB 1CH 16
FE ON 17
ME/MP 18
TO RP-105 BOARD CN502 (See page 69.)
TO RP-105 CN701 12P
CAM UNREG 1
CAM UNREG 2
CAM UNREG 3
CAM AU 2/TALLY 4
CAM AU GND 5
CAM AU 1 6
CAM STBY 7
START/STOP 8
SP (+) 9
SP (-) 10
CAM V IN GND 11
CAM V IN 12
TO CN-6
Q818,820 CAM UNREG SW


CN-6P BOARD
CN601 12P
12 CAM V IN
11 CAM V GND
10 SP (-)
9 SP (+)
8 START/STOP
7 STBY
6 CAM AU 1
5 CAM AU GND
4 CAM AU2/TALLY
3 CAM UNREG
2 CAM UNREG
1 CAM UNREG
J601 12P
CAMERA CONNECTOR
CN602 2P 1.5 L
1 SP (+)
2 SP (-)
SP901 SPEAKER
W601
D602 RD9.1M
D603 RD9.1M-T1B1
D606 RD9.1M-T1B1
D605 RD9.1M-T1B1
D608 RD9.1M-T1B1
CL602
D604 RD9.1M-T1B1


11
12
13
14
15
16
17
18
19
20
21
22
Q779,780
CURRENT LIMITTER
(D-13)
IC771
IN/OUT
BUS DECODER
CLAMP
YCA
SYNC SEP
PULSE GEN
AGC DET
REG4.2V
REC VIDEO OUT
Q775
BUFF
IC771 CXA1201Q-T3
AGC
PB VL
Q772,773
SW
Q601,607
SW
IC601
Y PROCESS
IC601 CXA1207AR-T5
Q602-605
EQ,PEAKING AMP
DEEM Y L
Q808,809
PEAKING AMP
FL801
Q813,814
SW REG
Q815,806,804
LPF,SOFT LIMITTER
IC802
LIMITTER AMP
IC802 MC10H116M-T1
Q825,826,827
EQ
Q831
SW
Q819
SW REG
Q822
BUFF
Q823,824
EQ
REC Y L
Q746,747
AMP
Q748,749,750,751
MUTE
Q743
SW
FL741
APC LPF
IC741 CXA1203N-T3
IC741
PAL JOG
Q744
SW
Q745
SW
Q741
INV
C COMB
CARR
DEV


17
18
19
20
21
22
23
24
25
26
27
28
IC001
CCD DL
CXL1506
AUTO BIAS
DRIVER
TIMING
PLL
BIAS
CCD (1698bit)
CC-55 BOARD
CN601
Q651 LPF
Q652,653 EQ
Q654 LPF
Q655 BUFF
Q656-662 EQ,PEAKING AMP
Q665 BUFF
IC651
NJM2233BM-T1
Q663 SW
IC601
Y PROCESS
CXA1207AR-T5
Q706,707 BUFF
Q705 BUFF
Q703,704 SW
IC701
C PROCESS
CXA1208R-T5
Q702 SW
Q701 BUFF
Q746,747 AMP
Q748,749,750,751 MUTE
Q743 SW
IC741
PAL JOG
CXA1203N-T5
Q741 INV
Q746 AMP

no mark : REC/ PB mode.
( ) : REC mode.
〈 〉 : PB mode.
* : Impossible to measure the voltage at the marked points.

DIODE

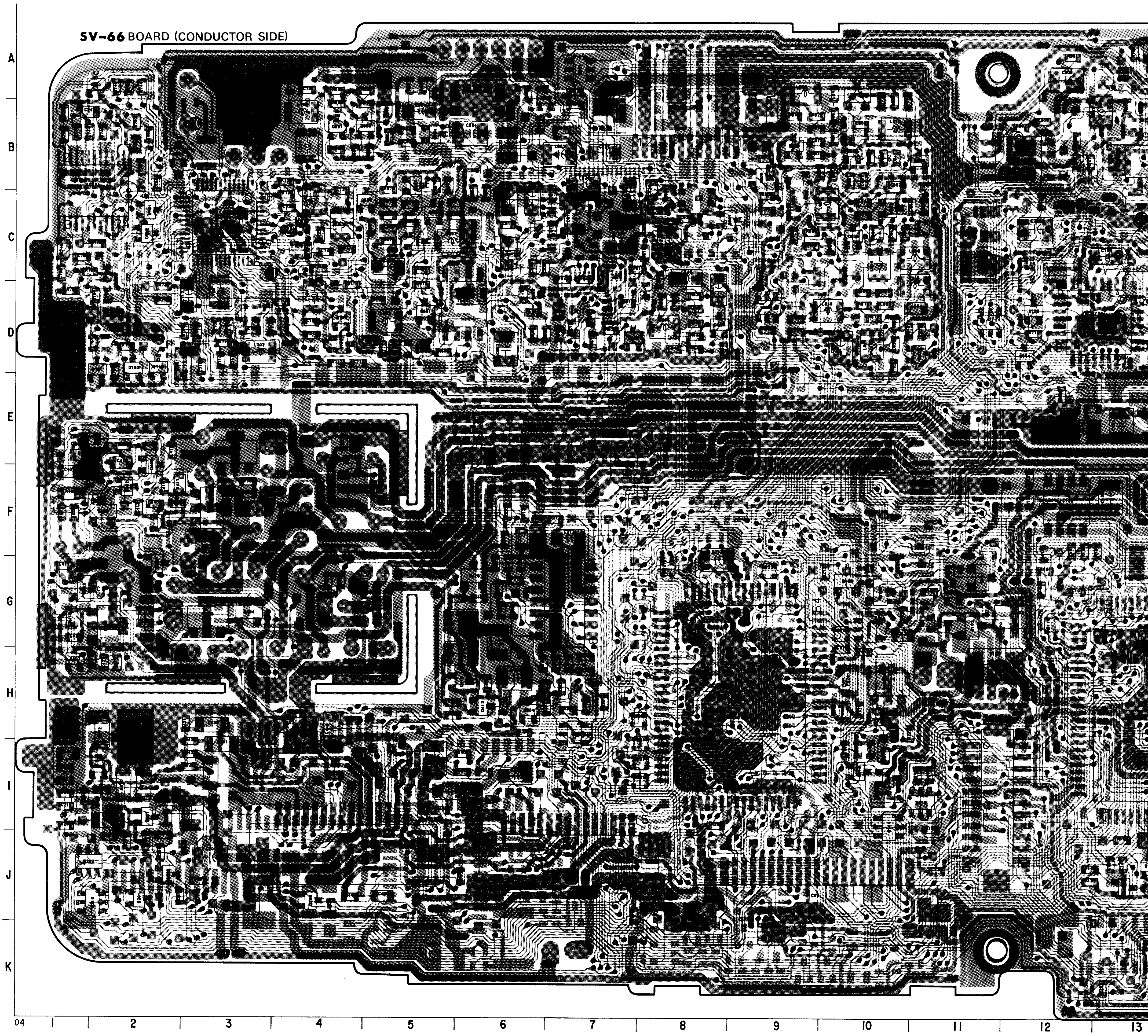
D101	8-719-938-72	DIODE SB01-05CP
D103	8-719-105-52	DIODE RD3.6M-B2
D104	8-719-105-XX	DIODE RD6.2M-B1
D107	8-719-941-09	DIODE DAP202U
D108	8-719-404-40	DIODE MA121
D201	8-719-941-86	DIODE DAN202U
D202	8-719-404-40	DIODE MA121
D203	8-719-404-40	DIODE MA121
D204	8-719-941-09	DIODE DAP202U
D205	8-719-941-09	DIODE DAP202U
D206	8-719-941-09	DIODE DAP202U
D301	8-719-941-86	DIODE DAN202U
D401	8-719-938-78	DIODE SB10-05PCP
D402	8-719-941-09	DIODE DAP202U
D403	8-719-938-75	DIODE SB05-05CP
D404	8-719-938-75	DIODE SB05-05CP
D601	8-719-404-40	DIODE MA121
D701	8-719-941-86	DIODE DAN202U
D702	8-719-941-86	DIODE DAN202U
D741	8-719-941-86	DIODE DAN202U
D742	8-719-941-86	DIODE DAN202U
D771	8-719-404-40	DIODE MA121
D802	8-719-800-76	DIODE 1SS226
D901	8-719-106-44	DIODE RD9.1M-B2
D902	8-719-106-44	DIODE RD9.1M-B2

IC

IC101	8-752-815-30	IC CXP50116-093Q
IC102	8-759-502-36	IC S-81350HG
IC103	8-759-940-33	IC S-8052ALO-LG-S
IC104	8-759-946-03	IC S-8054ALR-LN-S
IC105	8-759-720-23	IC AK93C57F
IC106	8-759-009-22	IC MC14094BF
IC107	8-759-209-15	IC TC4SU69F
IC108	8-759-209-97	IC TC4S81F
IC109	8-759-209-97	IC TC4S81F
IC201	8-759-234-77	IC TC4S66F
IC202	8-759-234-77	IC TC4S66F
IC204	8-759-999-11	IC LM358D
IC206	8-752-815-31	IC CXP80116-805Q
IC301	1-809-200-11	ATF-HIC (PAL)
IC302	8-759-100-97	IC UPC339G2
IC401	8-759-945-17	IC MB3775PF
IC402	8-759-998-94	IC LM311D
IC403	8-759-990-55	IC CXA8006M
IC404	8-759-805-06	IC CXA1127M
IC405	8-759-107-68	IC CX20115A
IC601	8-752-036-19	IC CXA1207
IC651	8-759-710-86	IC NJM2233BM
IC701	8-752-036-20	IC CXA1208R
IC741	8-759-605-61	IC CXA1203N
IC771	8-752-033-40	IC CXA1201Q
IC802	8-759-012-00	IC MC10H116M
IC901	8-759-701-02	IC NJM2073M

CC-55 (CCD), CN-6 (CAMERA CONNECTOR), SV-66(VIDEO) PRINTED WIRING BOARDS

— Ref. No, CN-6 BOARD : 3000 series, CC-55 and SV-66 BOARDS : 5000series —



IC

01	8-752-815-30	IC CXP50116-093Q
02	8-759-502-36	IC S-81350HG
03	8-759-940-33	IC S-8052ALO-LG-S
04	8-759-946-03	IC S-8054ALR-LN-S
05	8-759-720-23	IC AK93C57F
06	8-759-009-22	IC MC14094BF
07	8-759-209-15	IC TC4SU69F
08	8-759-209-97	IC TC4S81F
09	8-759-209-97	IC TC4S81F
01	8-759-234-77	IC TC4S66F
02	8-759-234-77	IC TC4S66F
04	8-759-999-11	IC LM358D
06	8-752-815-31	IC CXP80116-805Q
01	1-809-200-11	ATF-HIC (PAL)
02	8-759-100-97	IC UPC339G2
01	8-759-945-17	IC MB3775PF
02	8-759-998-94	IC LM311D
03	8-759-990-55	IC CXA8006M
04	8-759-805-06	IC CXA1127M
05	8-759-107-68	IC CX20115A
01	8-752-036-19	IC CXA1207
51	8-759-710-86	IC NJM2233BM
01	8-752-036-20	IC CXA1208R
41	8-759-605-61	IC CXA1203N
71	8-752-033-40	IC CXA1201Q
02	8-759-012-00	IC MC10H116M
01	8-759-701-02	IC NJM2073M

TRANSISTOR

Q101	8-729-905-18	TRANSISTOR DTC144EU
Q102	8-729-905-35	TRANSISTOR 2SC4081R
Q103	8-729-220-93	TRANSISTOR 2SK209G
Q104	8-729-905-18	TRANSISTOR DTC144EU
Q105	8-729-905-35	TRANSISTOR 2SC4081R
Q106	8-729-905-23	TRANSISTOR 2SA1576R
Q107	8-729-220-93	TRANSISTOR 2SK209G
Q108	8-729-220-93	TRANSISTOR 2SK209G
Q109	8-729-905-12	TRANSISTOR DTA144EU
Q110	8-729-905-35	TRANSISTOR 2SC4081R
Q111	8-729-905-26	TRANSISTOR 2SA1576Q
Q112	8-729-905-26	TRANSISTOR 2SA1576Q
Q113	8-729-921-08	TRANSISTOR DTC144TU
Q114	8-729-403-24	TRANSISTOR XN4210
Q116	8-729-403-24	TRANSISTOR XN4210
Q117	8-729-905-18	TRANSISTOR DTC144EU
Q118	8-729-920-59	TRANSISTOR IMX2
Q120	8-729-905-35	TRANSISTOR 2SC4081R
Q201	8-729-905-35	TRANSISTOR 2SC4081R
Q202	8-729-905-35	TRANSISTOR 2SC4081R
Q203	8-729-921-08	TRANSISTOR DTC144TU
Q204	8-729-902-96	TRANSISTOR FMS1
Q205	8-729-903-82	TRANSISTOR FMW2
Q206	8-729-907-00	TRANSISTOR DTC114EU
Q207	8-729-905-35	TRANSISTOR 2SC4081
Q208	8-729-820-46	TRANSISTOR 2SB1202FAS
Q209	8-729-905-35	TRANSISTOR 2SC4081R
Q210	8-729-403-24	TRANSISTOR XN4210
Q212	8-729-905-12	TRANSISTOR DTA144EU
Q213	8-729-905-18	TRANSISTOR DTC144EU
Q214	8-729-905-18	TRANSISTOR DTC144EU
Q215	8-729-905-18	TRANSISTOR DTC144EU
Q216	8-729-905-35	TRANSISTOR 2SC4081R
Q301	8-729-905-23	TRANSISTOR 2SA1576R
Q302	8-729-905-35	TRANSISTOR 2SC4081R
Q303	8-729-905-23	TRANSISTOR 2SA1576R
Q304	8-729-905-35	TRANSISTOR 2SC4081R
Q305	8-729-905-18	TRANSISTOR DTC144EU
Q306	8-729-905-18	TRANSISTOR DTC144EU
Q307	8-729-920-48	TRANSISTOR IMH2
Q401	8-729-905-35	TRANSISTOR 2SC4081R
Q402	8-729-901-04	TRANSISTOR DTA114EK
Q403	8-729-905-35	TRANSISTOR 2SC4081R
Q404	8-729-805-25	TRANSISTOR 2SB1121
Q405	8-729-905-35	TRANSISTOR 2SC4081R
Q406	8-729-905-61	TRANSISTOR DTC124EU
Q407	8-729-905-35	TRANSISTOR 2SC4081R
Q408	8-729-805-25	TRANSISTOR 2SB1121
Q409	8-729-805-25	TRANSISTOR 2SB1121
Q410	8-729-805-25	TRANSISTOR 2SB1121
Q411	8-729-805-25	TRANSISTOR 2SB1121
Q412	8-729-905-35	TRANSISTOR 2SC4081R
Q413	8-729-907-00	TRANSISTOR DTC114EU
Q415	8-729-905-18	TRANSISTOR DTC144EU
Q416	8-729-905-12	TRANSISTOR DTA144EU
Q418	8-729-141-48	TRANSISTOR 2SB624-BV345
Q419	8-729-907-00	TRANSISTOR DTC114EU
Q420	8-729-907-00	TRANSISTOR DTC114EU
Q601	8-729-905-12	TRANSISTOR DTA144EU
Q602	8-729-905-35	TRANSISTOR 2SC4081R
Q603	8-729-905-35	TRANSISTOR 2SC4081R
Q604	8-729-905-35	TRANSISTOR 2SC4081R
Q605	8-729-905-23	TRANSISTOR 2SA1576R
Q609	8-729-905-18	TRANSISTOR DTC144EU
Q651	8-729-905-23	TRANSISTOR 2SA1576R
Q652	8-729-905-35	TRANSISTOR 2SC4081R
Q653	8-729-905-35	TRANSISTOR 2SC4081R
Q654	8-729-905-23	TRANSISTOR 2SA1576R
Q655	8-729-905-35	TRANSISTOR 2SC4081R
Q656	8-729-905-35	TRANSISTOR 2SC4081R
Q657	8-729-905-23	TRANSISTOR 2SA1576R
Q658	8-729-905-35	TRANSISTOR 2SC4081R
Q659	8-729-905-35	TRANSISTOR 2SC4081R
Q660	8-729-905-23	TRANSISTOR 2SA1576R
Q661	8-729-905-12	TRANSISTOR DTA144EU
Q662	8-729-905-18	TRANSISTOR DTC144EU
Q663	8-729-920-48	TRANSISTOR IMH2
Q665	8-729-905-35	TRANSISTOR 2SC4081R
Q701	8-729-905-35	TRANSISTOR 2SC4081R
Q702	8-729-905-18	TRANSISTOR DTC144EU
Q703	8-729-905-35	TRANSISTOR 2SC4081R
Q704	8-729-905-18	TRANSISTOR DTC144EU
Q705	8-729-905-35	TRANSISTOR 2SC4081R
Q706	8-729-905-23	TRANSISTOR 2SA1576R
Q707	8-729-905-35	TRANSISTOR 2SC4081R
Q709	8-729-905-18	TRANSISTOR DTC144EU
Q741	8-729-905-18	TRANSISTOR DTC144EU
Q743	8-729-905-12	TRANSISTOR DTA144EU
Q744	8-729-907-39	TRANSISTOR IMD2
Q745	8-729-920-48	TRANSISTOR IMH2
Q746	8-729-905-35	TRANSISTOR 2SC4081R
Q747	8-729-905-35	TRANSISTOR 2SC4081R
Q748	8-729-905-18	TRANSISTOR DTC144EU
Q749	8-729-102-07	TRANSISTOR 2SC2223-F13
Q750	8-729-905-35	TRANSISTOR 2SC4081R
Q751	8-729-905-35	TRANSISTOR 2SC4081R
Q771	8-729-907-00	TRANSISTOR DTC114EU
Q772	8-729-905-12	TRANSISTOR DTA144EU
Q773	8-729-905-18	TRANSISTOR DTC144EU
Q774	8-729-905-18	TRANSISTOR DTC144EU
Q775	8-729-905-35	TRANSISTOR 2SC4081R
Q777	8-729-	
Q778	8-729-	
Q779	8-729-	
Q780	8-729-	
Q804	8-729-	
Q806	8-729-	
Q808	8-729-	
Q809	8-729-	
Q813	8-729-	
Q814	8-729-	
Q815	8-729-	
Q818	8-729-	
Q819	8-729-	
Q820	8-729-	
Q822	8-729-	
Q823	8-729-	
Q824	8-729-	
Q825	8-729-	
Q826	8-729-	
Q827	8-729-	
Q831	8-729-	
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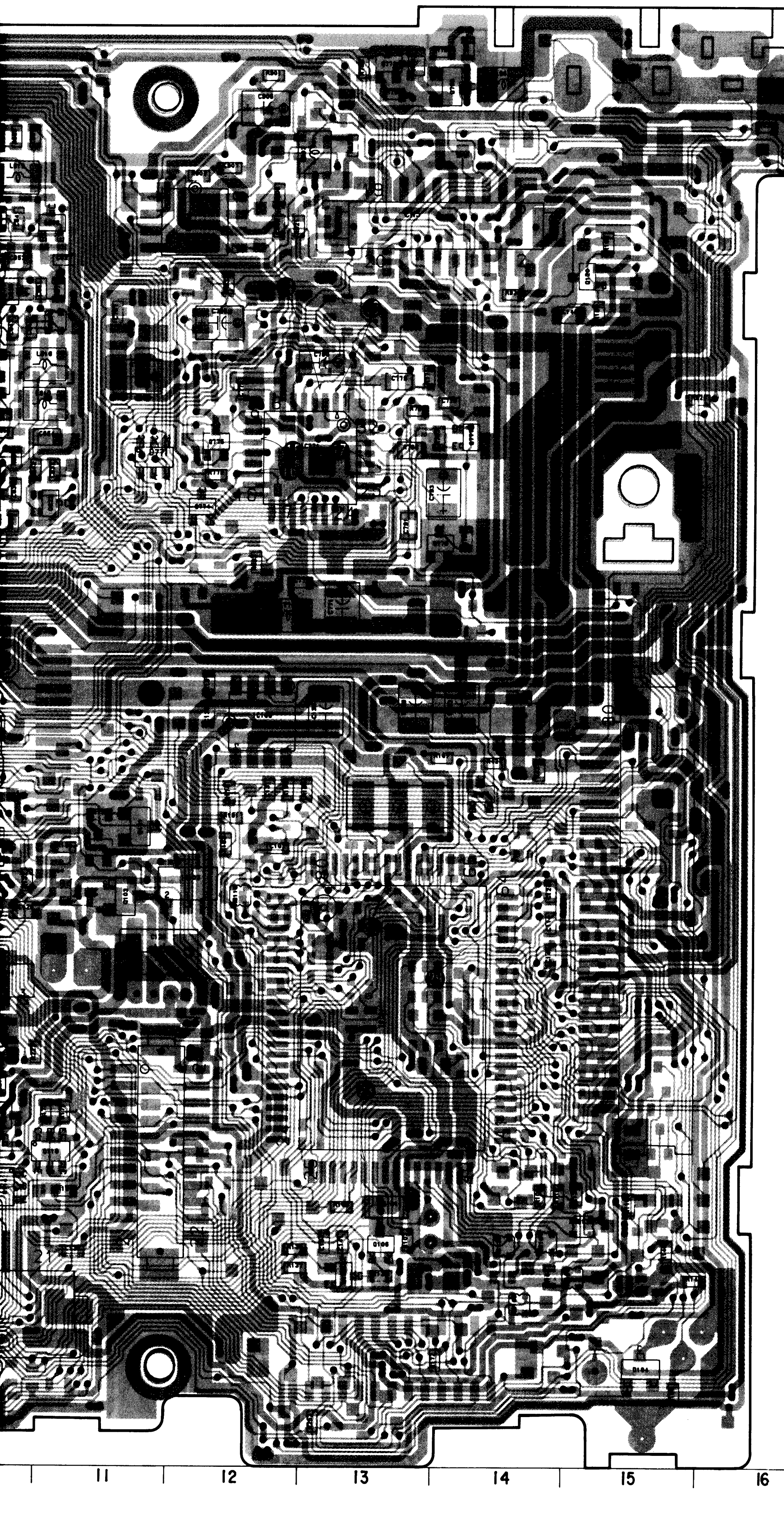
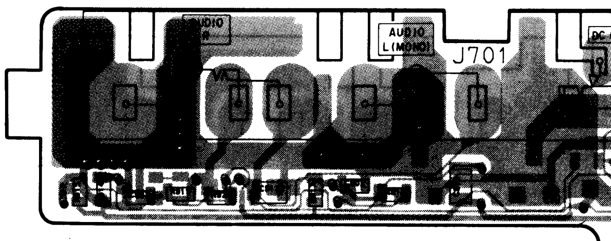
Q902	8-729-	
Q911	8-729-	
Q912	8-729-	

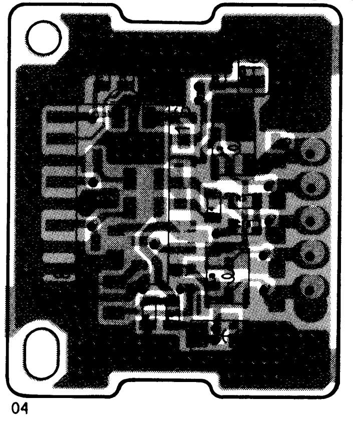




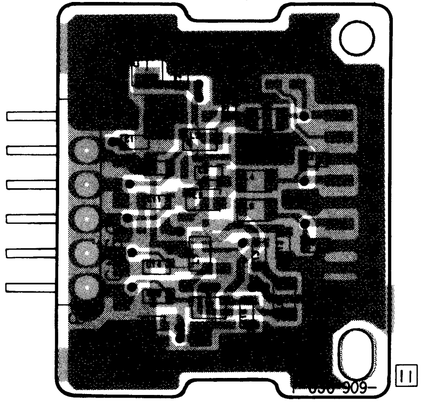
IC

IC001 8-752-333-24 IC CXL1506M

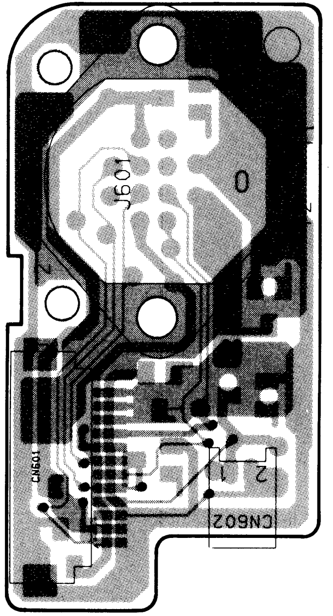
CC-55 BOARD (CONDUCTOR SIDE)



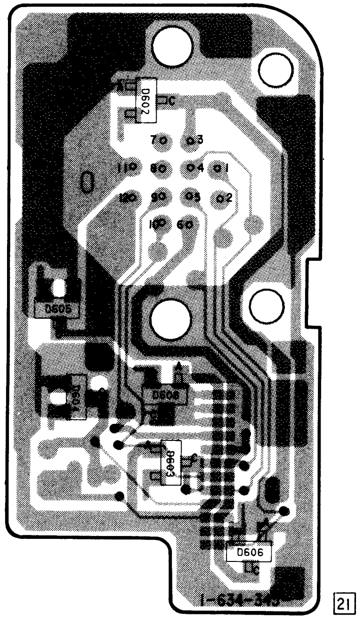
CC-55 BOARD (COMPONENT SIDE)



CN-6P BOARD (COMPONENT SIDE)



CN-6P BOARD (CONDUCTOR SIDE)

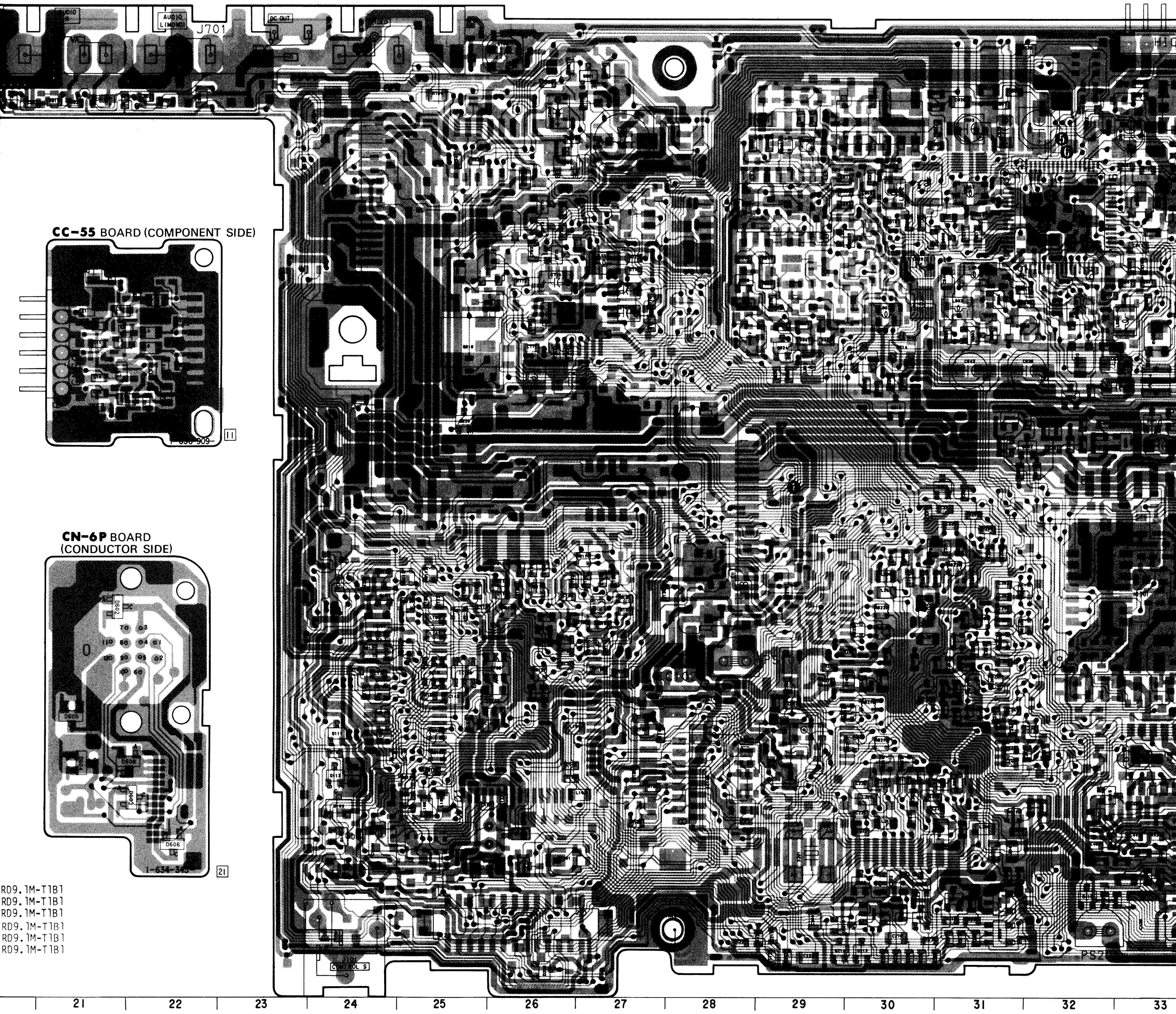


DIODE

D602	8-719-106-43	DIODE RD9.1M-T1B1
D603	8-719-106-43	DIODE RD9.1M-T1B1
D604	8-719-106-43	DIODE RD9.1M-T1B1
D605	8-719-106-43	DIODE RD9.1M-T1B1
D606	8-719-106-43	DIODE RD9.1M-T1B1
D608	8-719-106-43	DIODE RD9.1M-T1B1

905-35	TRANSISTOR 2SC4081R
905-35	TRANSISTOR 2SC4081R
905-23	TRANSISTOR 2SA1576R
905-35	TRANSISTOR 2SC4081R
905-35	TRANSISTOR 2SC4081R
905-23	TRANSISTOR 2SA1576R
905-12	TRANSISTOR DTA144EU
905-18	TRANSISTOR DTC144EU
920-48	TRANSISTOR IMH2
905-35	TRANSISTOR 2SC4081R
905-35	TRANSISTOR 2SC4081R
905-18	TRANSISTOR DTC144EU
905-35	TRANSISTOR 2SC4081R
905-18	TRANSISTOR DTC144EU
905-35	TRANSISTOR 2SC4081R
905-23	TRANSISTOR 2SA1576R
905-35	TRANSISTOR 2SC4081R
905-18	TRANSISTOR DTC144EU
905-18	TRANSISTOR DTC144EU
905-12	TRANSISTOR DTA144EU
907-39	TRANSISTOR IMD2
920-48	TRANSISTOR IMH2
905-35	TRANSISTOR 2SC4081R
905-35	TRANSISTOR 2SC4081R
905-18	TRANSISTOR DTC144EU
102-07	TRANSISTOR 2SC2223-F13
905-35	TRANSISTOR 2SC4081R
905-35	TRANSISTOR 2SC4081R
907-00	TRANSISTOR DTC114EU
905-12	TRANSISTOR DTA144EU
905-18	TRANSISTOR DTC144EU
905-18	TRANSISTOR DTC144EU
905-35	TRANSISTOR 2SC4081R

Q777	8-729-905-23	TRANSISTOR 2SA1576R
Q778	8-729-905-18	TRANSISTOR DTC144EU
Q779	8-729-905-35	TRANSISTOR 2SC4081R
Q780	8-729-141-48	TRANSISTOR 2SB624-BV345
Q804	8-729-905-35	TRANSISTOR 2SC4081R
Q806	8-729-905-12	TRANSISTOR DTA144EU
Q808	8-729-905-35	TRANSISTOR 2SC4081R
Q809	8-729-905-23	TRANSISTOR 2SA1576R
Q813	8-729-905-18	TRANSISTOR DTC144EU
Q814	8-729-141-48	TRANSISTOR 2SB624-BV345
Q815	8-729-905-35	TRANSISTOR 2SC4081R
Q818	8-729-822-51	TRANSISTOR 2SK1469-FA
Q819	8-729-141-48	TRANSISTOR 2SB624-BV345
Q820	8-729-905-18	TRANSISTOR DTC144EU
Q822	8-729-905-35	TRANSISTOR 2SC4081R
Q823	8-729-905-23	TRANSISTOR 2SA1576R
Q824	8-729-905-35	TRANSISTOR 2SC4081R
Q825	8-729-905-23	TRANSISTOR 2SA1576R
Q826	8-729-905-35	TRANSISTOR 2SC4081R
Q827	8-729-905-35	TRANSISTOR 2SC4081R
Q831	8-729-920-48	TRANSISTOR IMH2
Q901	8-729-905-35	TRANSISTOR 2SC4081R
Q902	8-729-141-48	TRANSISTOR 2SB624-BV345
Q911	8-729-905-35	TRANSISTOR 2SC4081R
Q912	8-729-905-35	TRANSISTOR 2SC4081R

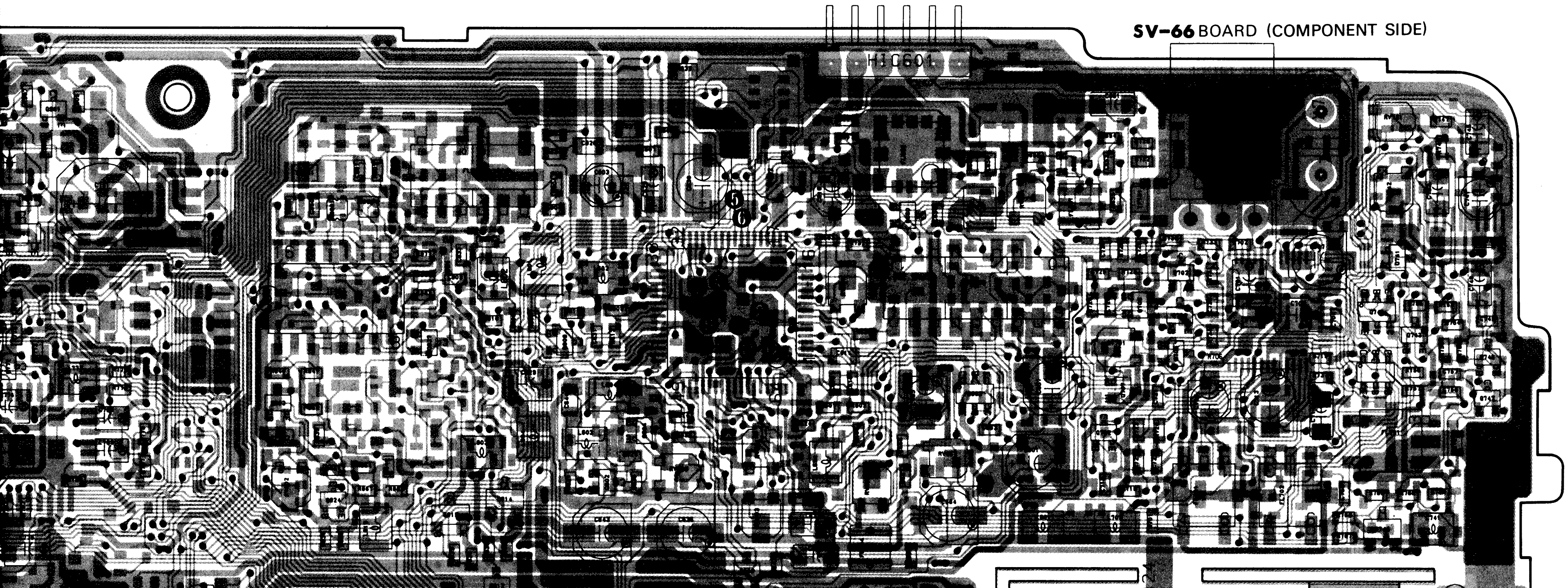


CC-55 BOARD (COMPONENT SIDE)

CN-6P BOARD
(CONDUCTOR SIDE)

RD9.1M-T1B1
RD9.1M-T1B1
RD9.1M-T1B1
RD9.1M-T1B1
RD9.1M-T1B1
RD9.1M-T1B1

SV-66 BOARD (COMPONENT SIDE)


HIC601
PS2
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DIODE

D101	8-719-938-72	DIODE SB01-05CP
D103	8-719-105-52	DIODE RD3.6M-B2
D104	8-719-105-XX	DIODE RD6.2M-B1
D107	8-719-941-09	DIODE DAP202U
D108	8-719-404-40	DIODE MA121
D201	8-719-941-86	DIODE DAN202U
D202	8-719-404-40	DIODE MA121
D203	8-719-404-40	DIODE MA121
D204	8-719-941-09	DIODE DAP202U
D205	8-719-941-09	DIODE DAP202U
D206	8-719-941-09	DIODE DAP202U
D301	8-719-941-86	DIODE DAN202U
D401	8-719-938-78	DIODE SB10-05PCP
D402	8-719-941-09	DIODE DAP202U
D403	8-719-938-75	DIODE SB05-05CP
D404	8-719-938-75	DIODE SB05-05CP
D601	8-719-404-40	DIODE MA121
D701	8-719-941-86	DIODE DAN202U
D702	8-719-941-86	DIODE DAN202U
D741	8-719-941-86	DIODE DAN202U
D742	8-719-941-86	DIODE DAN202U
D771	8-719-404-40	DIODE MA121
D802	8-719-800-76	DIODE 1SS226
D901	8-719-106-44	DIODE RD9.1M-B2
D902	8-719-106-44	DIODE RD9.1M-B2

IC

IC101	8-752-815-30	IC CXP50116-093Q
IC102	8-759-502-36	IC S-81350HG
IC103	8-759-940-33	IC S-8052ALO-LG-S
IC104	8-759-946-03	IC S-8054ALR-LN-S
IC105	8-759-720-23	IC AK93C57F
IC106	8-759-009-22	IC MC14094BF
IC107	8-759-209-15	IC TC4SU69F
IC108	8-759-209-97	IC TC4S81F
IC109	8-759-209-97	IC TC4S81F
IC201	8-759-234-77	IC TC4S66F
IC202	8-759-234-77	IC TC4S66F
IC204	8-759-999-11	IC LM358D
IC206	8-752-815-31	IC CXP80116-805Q
IC301	1-809-200-11	ATF-HIC (PAL)
IC302	8-759-100-97	IC UPC339G2
IC401	8-759-945-17	IC MB3775PF
IC402	8-759-998-94	IC LM311D
IC403	8-759-990-55	IC CXA8006M
IC404	8-759-805-06	IC CXA1127M
IC405	8-759-107-68	IC CX20115A
IC601	8-752-036-19	IC CXA1207
IC651	8-759-710-86	IC NJM2233BM
IC701	8-752-036-20	IC CXA1208R
IC741	8-759-605-61	IC CXA1203N
IC771	8-752-033-40	IC CXA1201Q
IC802	8-759-012-00	IC MC10H116M
IC901	8-759-701-02	IC NJM2073M

Q101	8-729-
Q102	8-729-
Q103	8-729-
Q104	8-729-
Q105	8-729-
Q106	8-729-
Q107	8-729-
Q108	8-729-
Q109	8-729-
Q110	8-729-
Q111	8-729-
Q112	8-729-
Q113	8-729-
Q114	8-729-
Q116	8-729-
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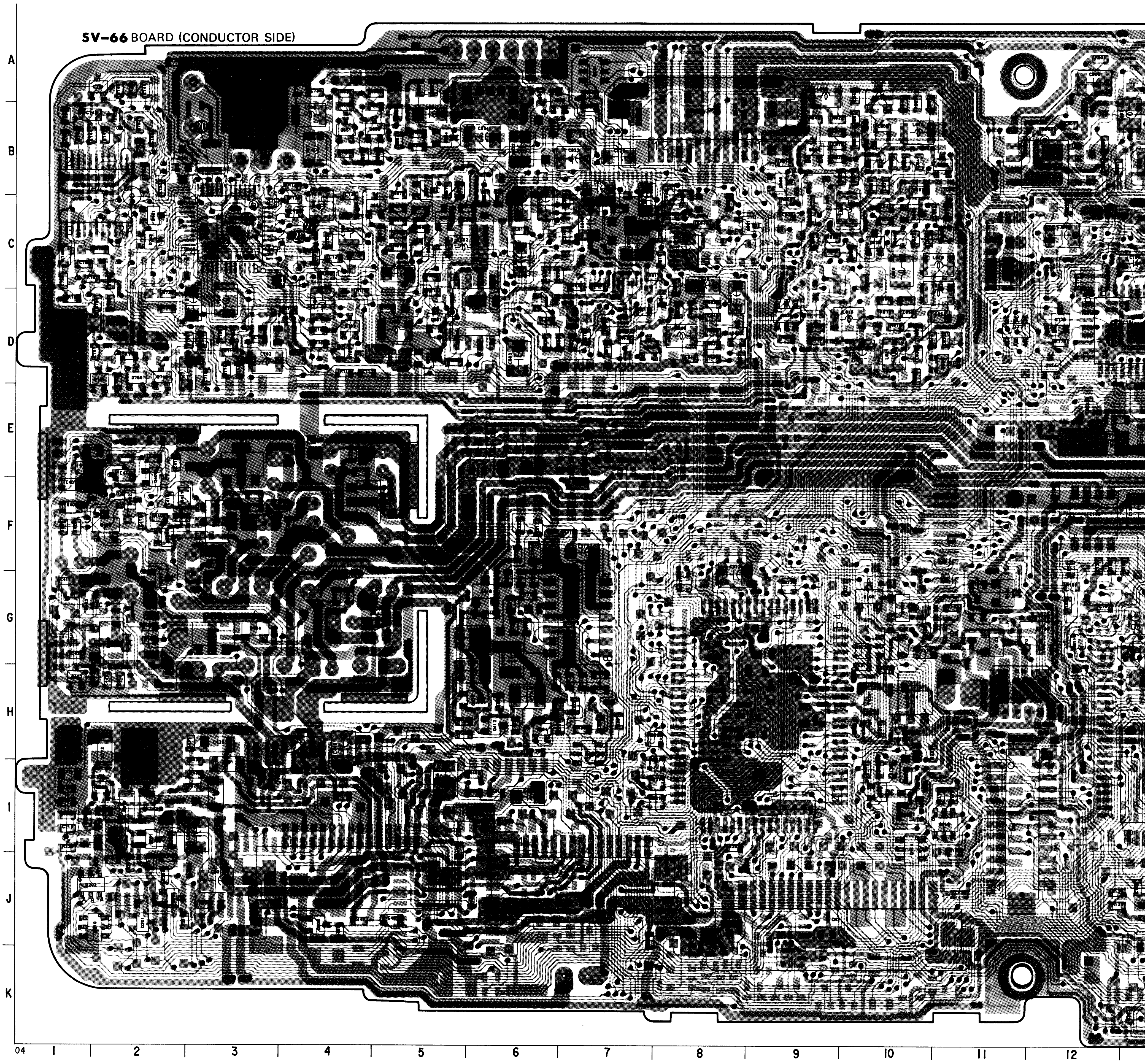
Q212	8-729-
Q213	8-729-
Q214	8-729-
Q215	8-729-
Q216	8-729-
Q301	8-729-
Q302	8-729-

SV-66 (SERVO, SYSTEM CONTROL) PRINTED WIRING BOARD

— Ref. No, SV-66 BOARD : 5000 series —



93Q
LG-S
LN-S
05Q

TRANSISTOR

Q101	8-729-905-18	TRANSISTOR DTC144EU
Q102	8-729-905-35	TRANSISTOR 2SC4081R
Q103	8-729-220-93	TRANSISTOR 2SK209G
Q104	8-729-905-18	TRANSISTOR DTC144EU
Q105	8-729-905-35	TRANSISTOR 2SC4081R
Q106	8-729-905-23	TRANSISTOR 2SA1576R
Q107	8-729-220-93	TRANSISTOR 2SK209G
Q108	8-729-220-93	TRANSISTOR 2SK209G
Q109	8-729-905-12	TRANSISTOR DTA144EU
Q110	8-729-905-35	TRANSISTOR 2SC4081R
Q111	8-729-905-26	TRANSISTOR 2SA1576Q
Q112	8-729-905-26	TRANSISTOR 2SA1576Q
Q113	8-729-921-08	TRANSISTOR DTC144TU
Q114	8-729-403-24	TRANSISTOR XN4210
Q116	8-729-403-24	TRANSISTOR XN4210
Q117	8-729-905-18	TRANSISTOR DTC144EU
Q118	8-729-920-59	TRANSISTOR IMX2
Q120	8-729-905-35	TRANSISTOR 2SC4081R
Q201	8-729-905-35	TRANSISTOR 2SC4081R
Q202	8-729-905-35	TRANSISTOR 2SC4081R
Q203	8-729-921-08	TRANSISTOR DTC144TU
Q204	8-729-902-96	TRANSISTOR FMS1
Q205	8-729-903-82	TRANSISTOR FMW2
Q206	8-729-907-00	TRANSISTOR DTC114EU
Q207	8-729-905-35	TRANSISTOR 2SC4081
Q208	8-729-820-46	TRANSISTOR 2SB1202FAS
Q209	8-729-905-35	TRANSISTOR 2SC4081R
Q210	8-729-403-24	TRANSISTOR XN4210
Q212	8-729-905-12	TRANSISTOR DTA144EU
Q213	8-729-905-18	TRANSISTOR DTC144EU
Q214	8-729-905-18	TRANSISTOR DTC144EU
Q215	8-729-905-18	TRANSISTOR DTC144EU
Q216	8-729-905-35	TRANSISTOR 2SC4081R
Q301	8-729-905-23	TRANSISTOR 2SA1576R
Q302	8-729-905-35	TRANSISTOR 2SC4081R
Q303	8-729-905-23	TRANSISTOR 2SA1576R
Q304	8-729-905-35	TRANSISTOR 2SC4081R
Q305	8-729-905-18	TRANSISTOR DTC144EU
Q306	8-729-905-18	TRANSISTOR DTC144EU
Q307	8-729-920-48	TRANSISTOR IMH2
Q401	8-729-905-35	TRANSISTOR 2SC4081R
Q402	8-729-901-04	TRANSISTOR DTA114EK
Q403	8-729-905-35	TRANSISTOR 2SC4081R
Q404	8-729-805-25	TRANSISTOR 2SB1121
Q405	8-729-905-35	TRANSISTOR 2SC4081R
Q406	8-729-905-61	TRANSISTOR DTC124EU
Q407	8-729-905-35	TRANSISTOR 2SC4081R
Q408	8-729-805-25	TRANSISTOR 2SB1121
Q409	8-729-805-25	TRANSISTOR 2SB1121
Q410	8-729-805-25	TRANSISTOR 2SB1121
Q411	8-729-805-25	TRANSISTOR 2SB1121
Q412	8-729-905-35	TRANSISTOR 2SC4081R
Q413	8-729-907-00	TRANSISTOR DTC114EU
Q415	8-729-905-18	TRANSISTOR DTC144EU
Q416	8-729-905-12	TRANSISTOR DTA144EU
Q418	8-729-141-48	TRANSISTOR 2SB624-BV345
Q419	8-729-907-00	TRANSISTOR DTC114EU
Q420	8-729-907-00	TRANSISTOR DTC114EU
Q601	8-729-905-12	TRANSISTOR DTA144EU
Q602	8-729-905-35	TRANSISTOR 2SC4081R
Q603	8-729-905-35	TRANSISTOR 2SC4081R
Q604	8-729-905-35	TRANSISTOR 2SC4081R
Q605	8-729-905-23	TRANSISTOR 2SA1576R
Q609	8-729-905-18	TRANSISTOR DTC144EU
Q651	8-729-905-23	TRANSISTOR 2SA1576R
Q652	8-729-905-35	TRANSISTOR 2SC4081R
Q653	8-729-905-35	TRANSISTOR 2SC4081R
Q654	8-729-905-23	TRANSISTOR 2SA1576R
Q655	8-729-905-35	TRANSISTOR 2SC4081R
Q656	8-729-905-35	TRANSISTOR 2SC4081R
Q657	8-729-905-23	TRANSISTOR 2SA1576R
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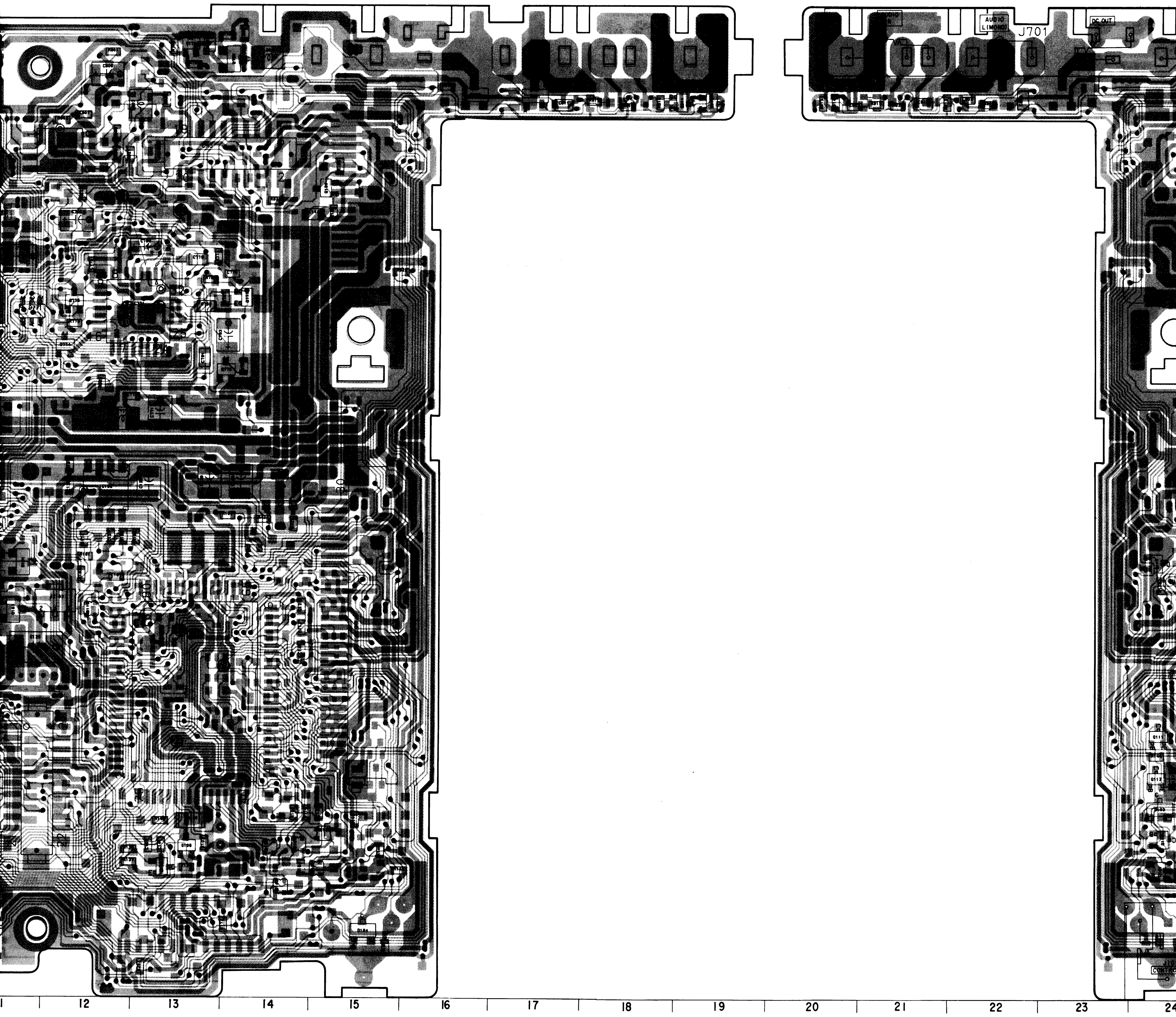
Q660	8-729-905-23	TRANSISTOR 2SA1576R
Q661	8-729-905-12	TRANSISTOR DTA144EU
Q662	8-729-905-18	TRANSISTOR DTC144EU
Q663	8-729-920-48	TRANSISTOR IMH2
Q665	8-729-905-35	TRANSISTOR 2SC4081R
Q701	8-729-905-35	TRANSISTOR 2SC4081R
Q702	8-729-905-18	TRANSISTOR DTC144EU
Q703	8-729-905-35	TRANSISTOR 2SC4081R
Q704	8-729-905-18	TRANSISTOR DTC144EU
Q705	8-729-905-35	TRANSISTOR 2SC4081R
Q706	8-729-905-23	TRANSISTOR 2SA1576R
Q707	8-729-905-35	TRANSISTOR 2SC4081R
Q709	8-729-905-18	TRANSISTOR DTC144EU
Q741	8-729-905-18	TRANSISTOR DTC144EU
Q743	8-729-905-12	TRANSISTOR DTA144EU
Q744	8-729-907-39	TRANSISTOR IMD2
Q745	8-729-920-48	TRANSISTOR IMH2
Q746	8-729-905-35	TRANSISTOR 2SC4081R
Q747	8-729-905-35	TRANSISTOR 2SC4081R
Q748	8-729-905-18	TRANSISTOR DTC144EU
Q749	8-729-102-07	TRANSISTOR 2SC2223-F13
Q750	8-729-905-35	TRANSISTOR 2SC4081R
Q751	8-729-905-35	TRANSISTOR 2SC4081R
Q771	8-729-907-00	TRANSISTOR DTC114EU
Q772	8-729-905-12	TRANSISTOR DTA144EU
Q773	8-729-905-18	TRANSISTOR DTC144EU
Q774	8-729-905-18	TRANSISTOR DTC144EU
Q775	8-729-905-35	TRANSISTOR 2SC4081R
Q777	8-729-905-23	TRANSISTOR 2SA1576R
Q778	8-729-905-18	TRANSISTOR DTC144EU
Q779	8-729-905-35	TRANSISTOR 2SC4081R
Q780	8-729-141-48	TRANSISTOR 2SB624-BV345
Q804	8-729-905-35	TRANSISTOR 2SC4081R
Q806	8-729-905-12	TRANSISTOR DTA144EU
Q808	8-729-905-35	TRANSISTOR 2SC4081R
Q809	8-729-905-23	TRANSISTOR 2SA1576R
Q813	8-729-905-18	TRANSISTOR DTC144EU
Q814	8-729-141-48	TRANSISTOR 2SB624-BV345
Q815	8-729-905-35	TRANSISTOR 2SC4081R
Q818	8-729-822-51	TRANSISTOR 2SK1469-FA
Q819	8-729-141-48	TRANSISTOR 2SB624-BV345
Q820	8-729-905-18	TRANSISTOR DTC144EU
Q822	8-729-905-35	TRANSISTOR 2SC4081R
Q823	8-729-905-23	TRANSISTOR 2SA1576R
Q824	8-729-905-35	TRANSISTOR 2SC4081R
Q825	8-729-905-23	TRANSISTOR 2SA1576R
Q826	8-729-905-35	TRANSISTOR 2SC4081R
Q827	8-729-905-35	TRANSISTOR 2SC4081R
Q831	8-729-920-48	TRANSISTOR IMH2
Q901	8-729-905-35	TRANSISTOR 2SC4081R
Q902	8-729-141-48	TRANSISTOR 2SB624-BV345
Q911	8-729-905-35	TRANSISTOR 2SC4081R
Q912	8-729-905-35	TRANSISTOR 2SC4081R



TEM CONTROL SERVO, SYSTEM CONTROL

TOR 2SC4081R
TOR 2SC4081R
TOR 2SA1576R
TOR 2SC4081R
TOR 2SC4081R

TOR 2SA1576R
TOR DTA144EU
TOR DTC144EU
TOR IMH2
TOR 2SC4081R

TOR 2SC4081R
TOR DTC144EU
TOR 2SC4081R
TOR DTC144EU
TOR 2SC4081R

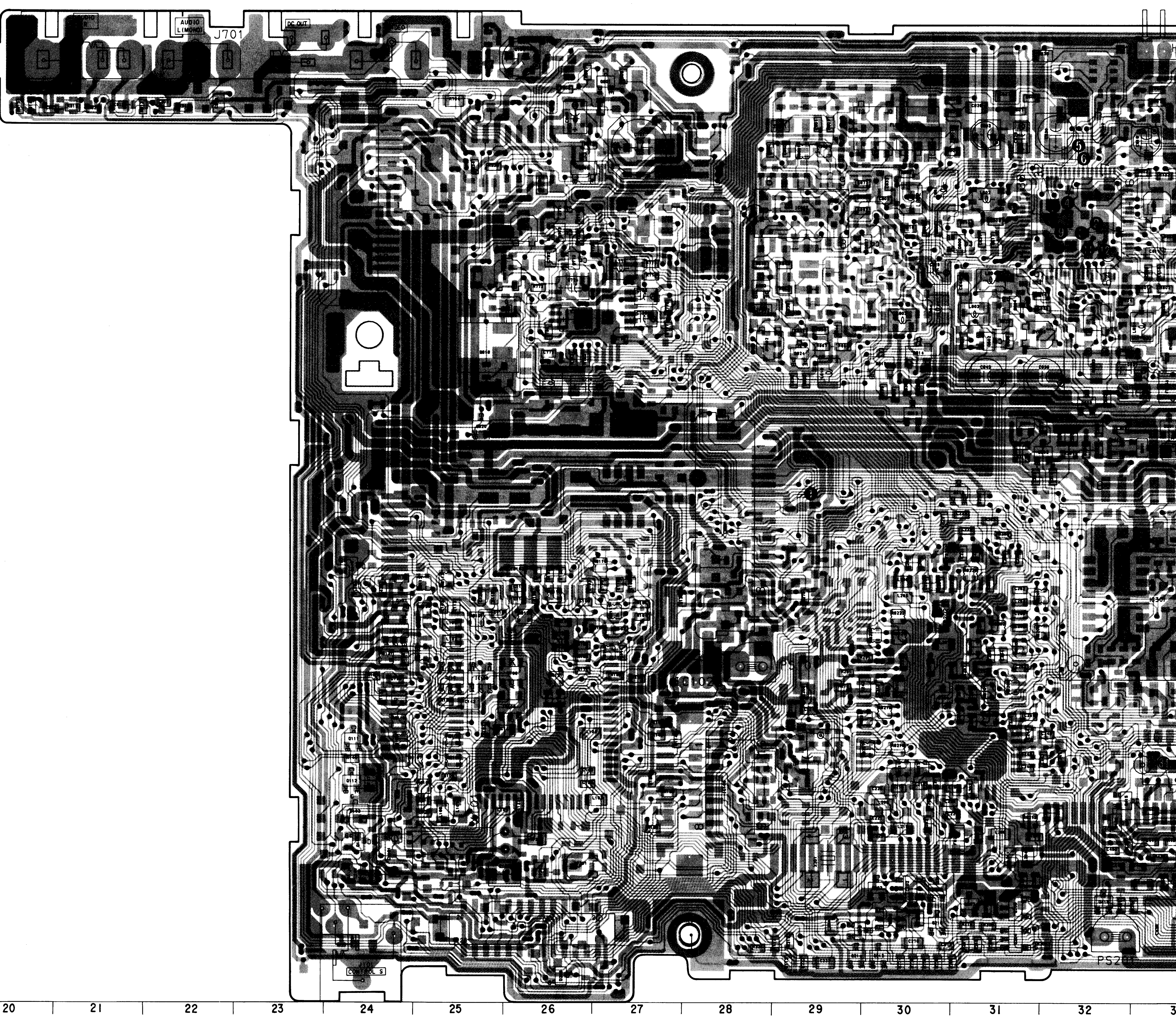
TOR 2SA1576R
TOR 2SC4081R
TOR DTC144EU
TOR DTC144EU
TOR DTA144EU

TOR IMD2
TOR IMH2
TOR 2SC4081R
TOR 2SC4081R
TOR DTC144EU

TOR 2SC2223-F13
TOR 2SC4081R
TOR 2SC4081R

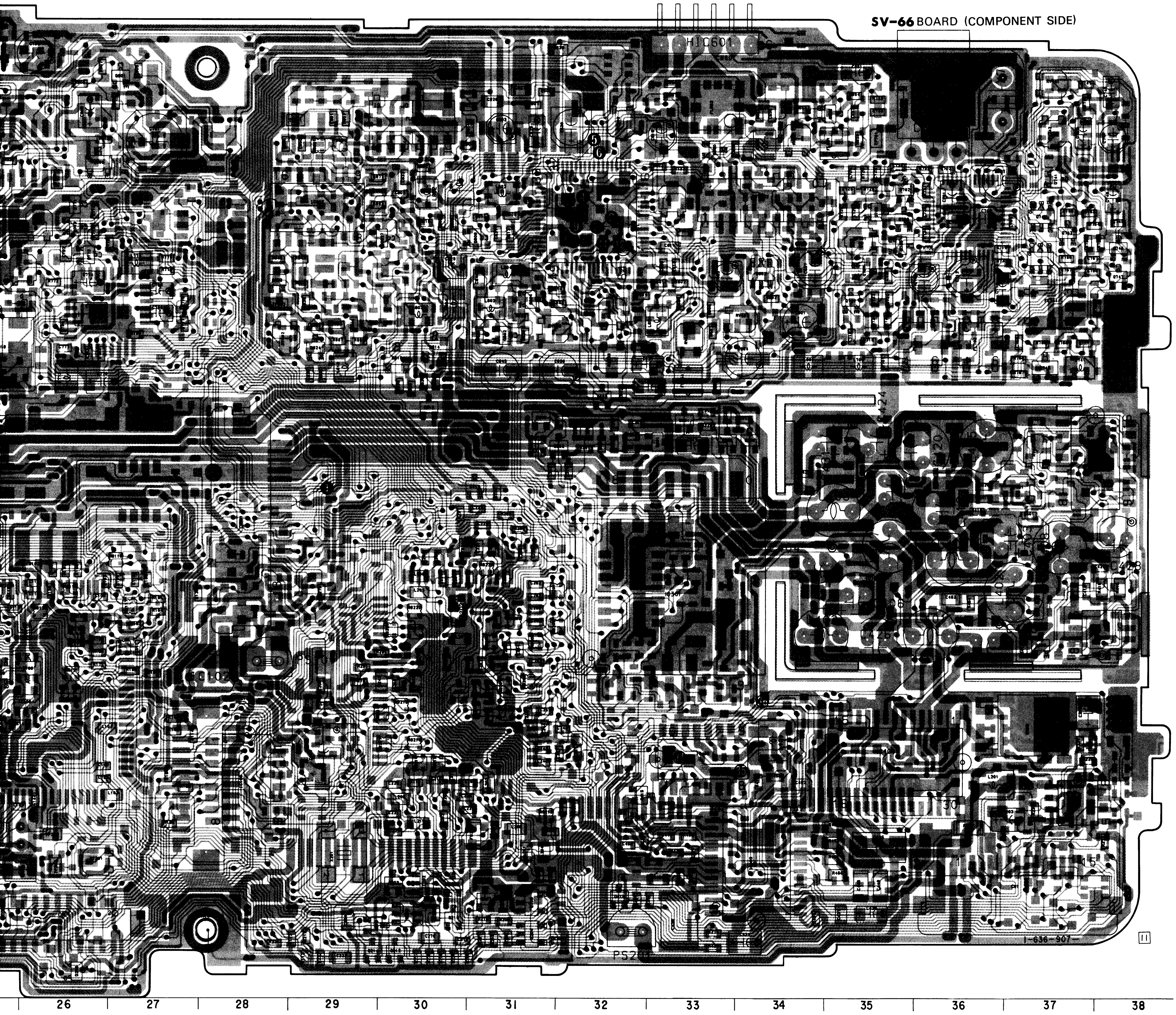
TOR DTC114EU
TOR DTA144EU
TOR DTC144EU
TOR DTC144EU
TOR 2SC4081R

Q777	8-729-905-23	TRANSISTOR	2SA1576R
Q778	8-729-905-18	TRANSISTOR	DTC144EU
Q779	8-729-905-35	TRANSISTOR	2SC4081R
Q780	8-729-141-48	TRANSISTOR	2SB624-BV345
Q804	8-729-905-35	TRANSISTOR	2SC4081R
Q806	8-729-905-12	TRANSISTOR	DTA144EU
Q808	8-729-905-35	TRANSISTOR	2SC4081R
Q809	8-729-905-23	TRANSISTOR	2SA1576R
Q813	8-729-905-18	TRANSISTOR	DTC144EU
Q814	8-729-141-48	TRANSISTOR	2SB624-BV345
Q815	8-729-905-35	TRANSISTOR	2SC4081R
Q818	8-729-822-51	TRANSISTOR	2SK1469-FA
Q819	8-729-141-48	TRANSISTOR	2SB624-BV345
Q820	8-729-905-18	TRANSISTOR	DTC144EU
Q822	8-729-905-35	TRANSISTOR	2SC4081R
Q823	8-729-905-23	TRANSISTOR	2SA1576R
Q824	8-729-905-35	TRANSISTOR	2SC4081R
Q825	8-729-905-23	TRANSISTOR	2SA1576R
Q826	8-729-905-35	TRANSISTOR	2SC4081R
Q827	8-729-905-35	TRANSISTOR	2SC4081R
Q831	8-729-920-48	TRANSISTOR	IMH2
Q901	8-729-905-35	TRANSISTOR	2SC4081R
Q902	8-729-141-48	TRANSISTOR	2SB624-BV345
Q911	8-729-905-35	TRANSISTOR	2SC4081R
Q912	8-729-905-35	TRANSISTOR	2SC4081R



SERVO, SYSTEM CONTROL **SERVO, SYSTEM CO**

SV-66 BOARD (COMPONENT SIDE)


HIC601
PS201
1-636-907-11
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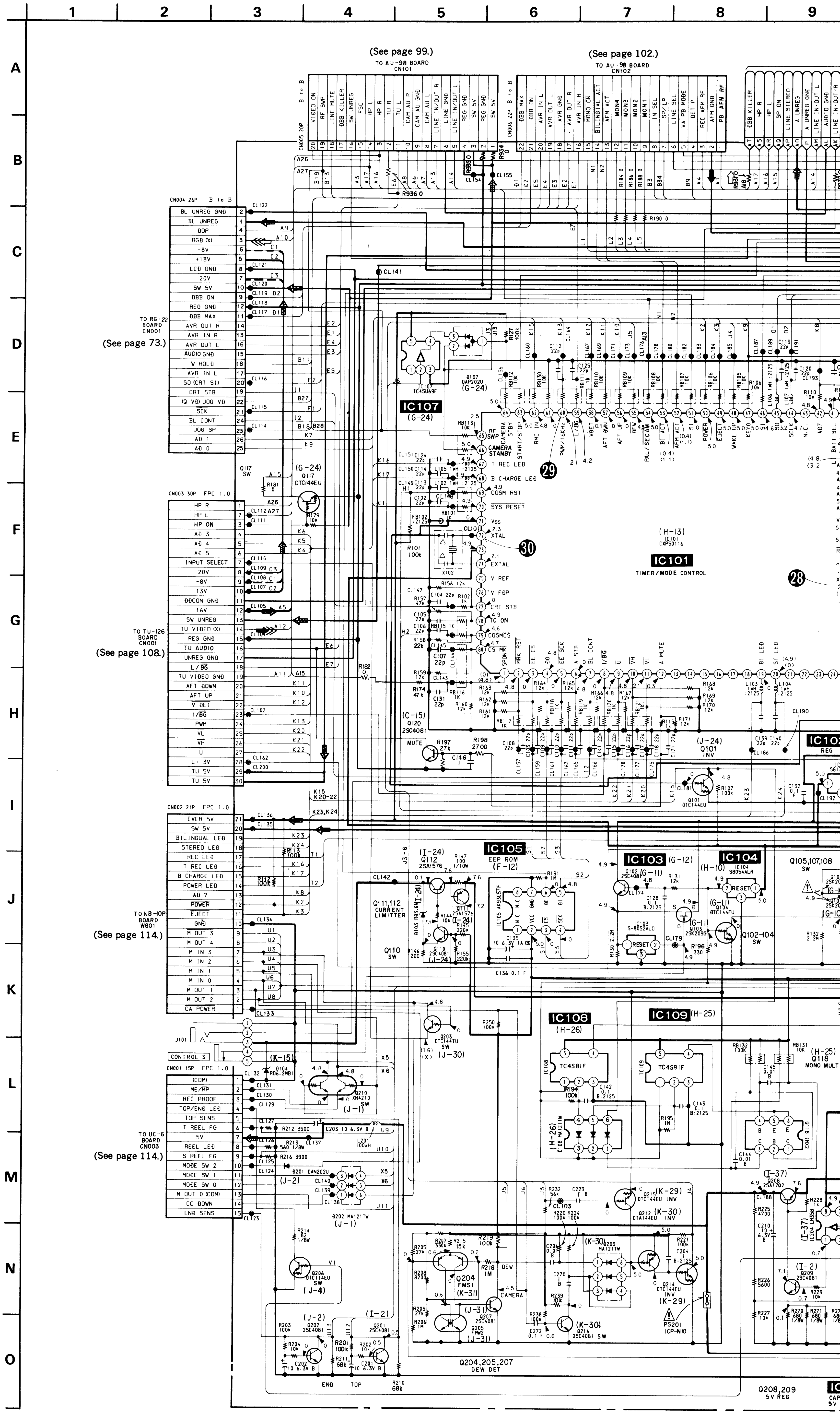
SERVO, SYSTEM CONTROL　**SERVO, SYSTEM CONTROL**

SV-66 (SERVO, SYSTEM CONTROL) SCHEMATIC DIAGRAM

— Ref. No, SV-66 BOARD : 5000 series —


1
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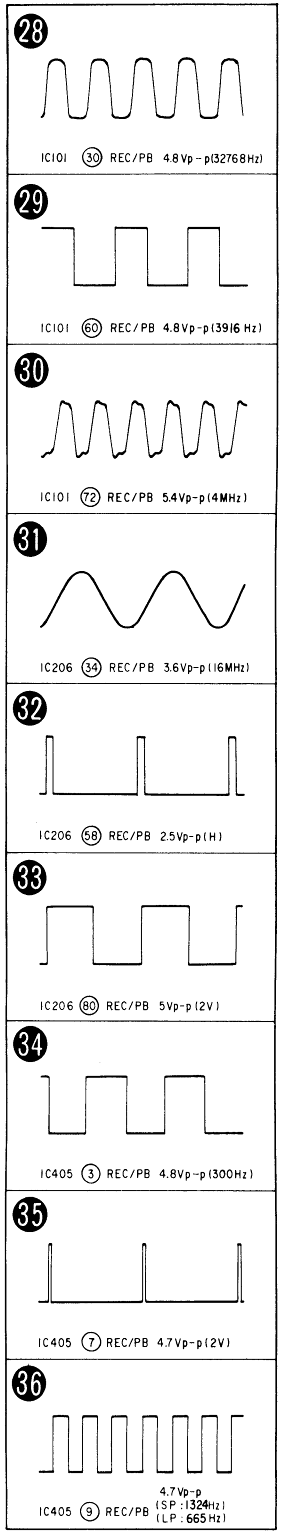
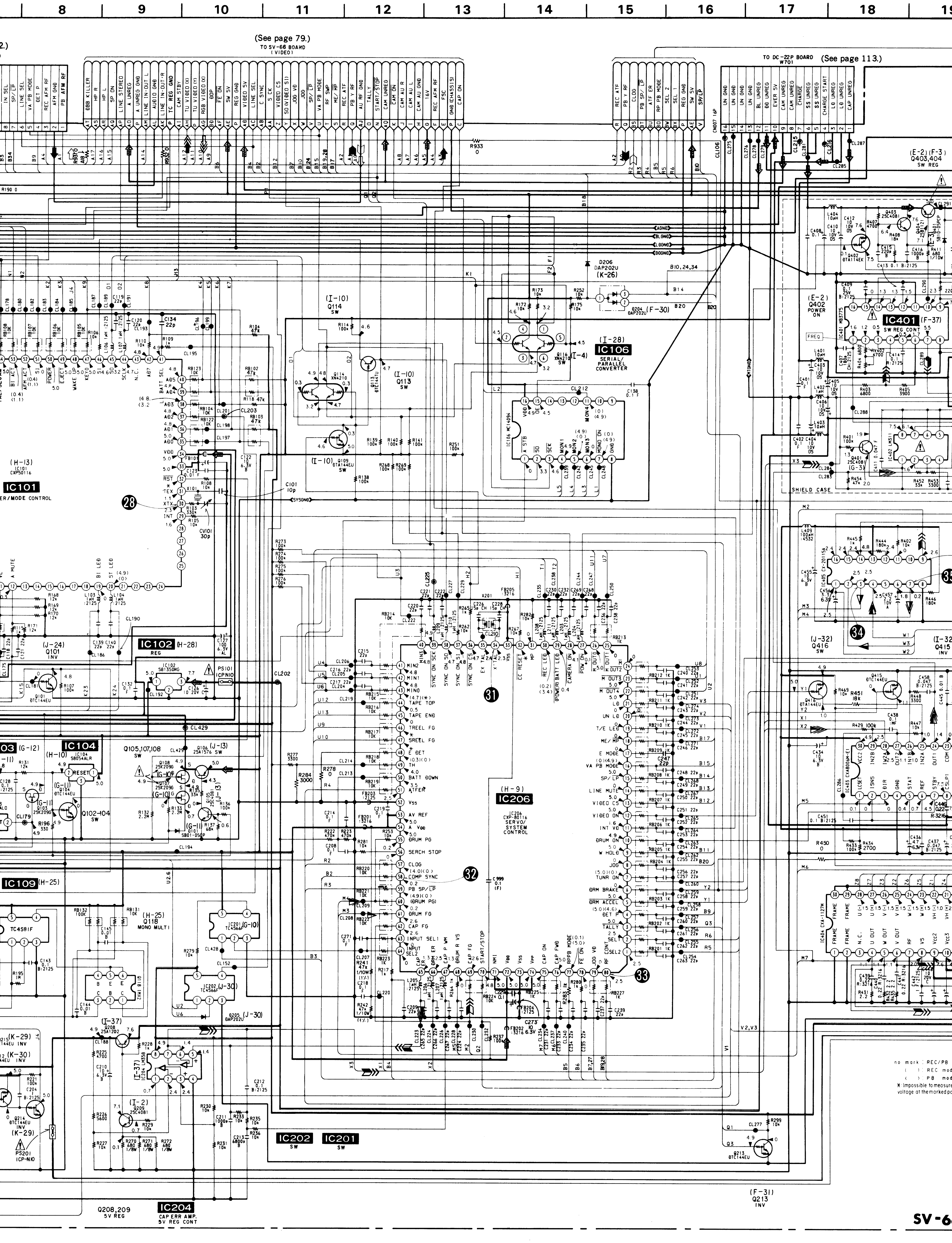
5
6
7
8
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
(See page 99.)
TO AU-98 BOARD CN101
(See page 102.)
TO AU-98 BOARD CN102
CN005 20P B to B
CN006 22P B to B
CN004 26P B to B
TO RG-22 BOARD CN001
(See page 73.)
CN003 30P FPC 1.0
TO TU-126 BOARD CN001
(See page 108.)
CN002 21P FPC 1.0
TO KB-10P BOARD W801
(See page 114.)
CN001 15P FPC 1.0
TO UC-6 BOARD CN003
(See page 114.)
IC107
(G-24)
IC101
(H-13)
CXP50116
TIMER/MODE CONTROL
IC105
EEP ROM
(F-12)
IC103
(G-12)
IC104
(H-10)
S8054ALR
IC108
(H-26)
TC4S81F
IC109
(H-25)
TC4S81F
Q117 DTC144EU
Q120 2SC4081 MUTE
Q101 DTC144EU INV
Q111,112 CURRENT LIMITTER
Q110 SW
Q102-104 SW
Q105,107,108 SW
Q118 MONO MULT
Q203 DTC144TU
Q210 XN4210 SW
Q206 DTC114EU SW
Q201 2SC4081
Q202 2SC4081
Q204 FMS1
Q204,205,207 DEW DET
Q214 DTC144EU INV
Q212 DTA144EU INV
Q215 DTC144EU INV
Q216 2SC4081 SW
PS201 ICP-N10
Q208,209 5V REG
J101
CONTROL S
END
TOP
DEW
CAMERA

SV-66 BOARD (SS)

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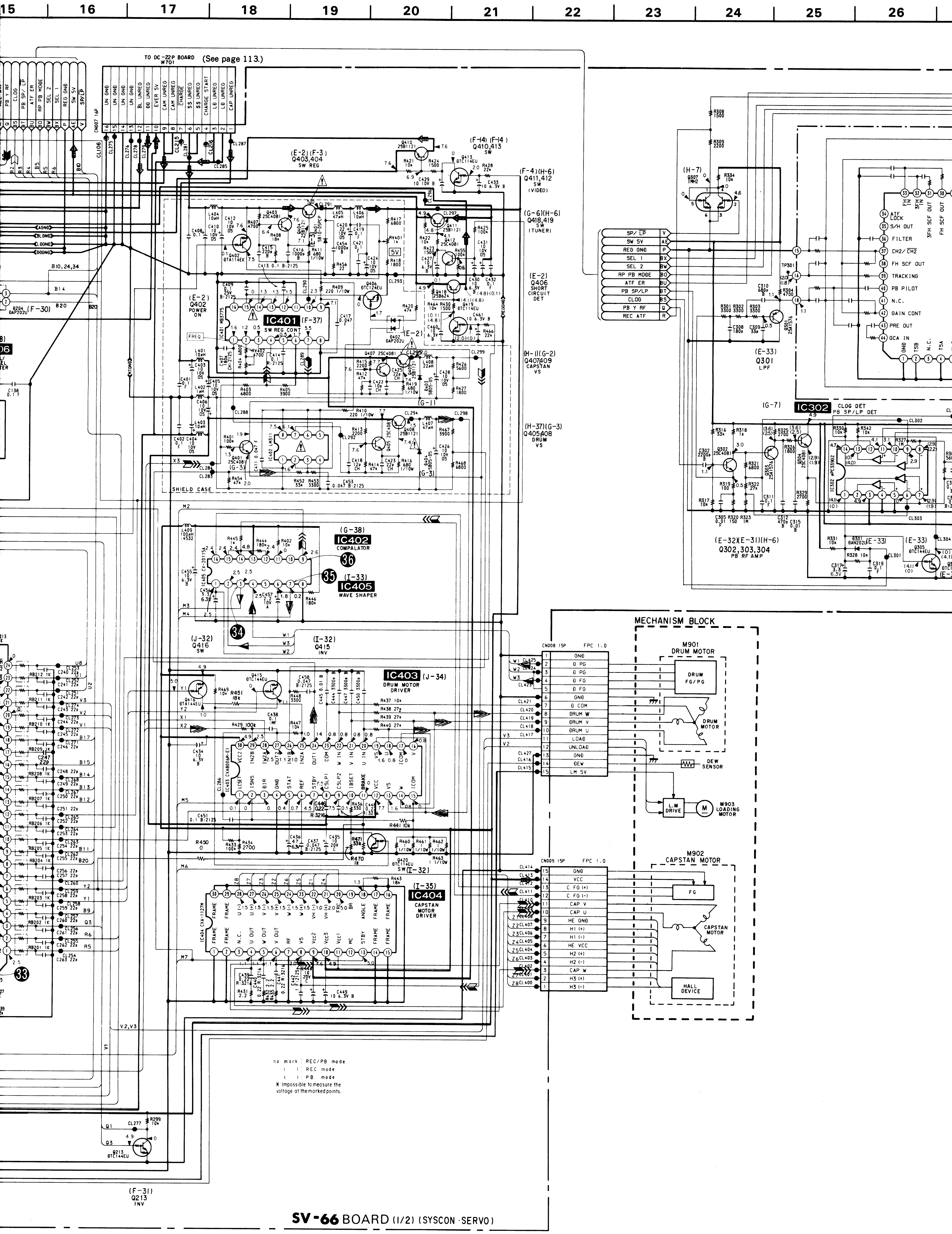
(See page 79.)
TO SV-66 BOARD (VIDEO)
TO DC-22P BOARD W701
(See page 113.)
IC101
(H-13) IC101 CXP50116
28
IC102 (H-28)
REG
IC102 S81350HG
PS101 ICP-N10
IC103 (G-12)
IC104
(H-10) IC104 S8054ALR
Q105,107,108 SW
Q106 (J-13) 2SA1576 SW
Q102-104 SW
IC109 (H-25)
TC4S81F
(H-25) Q118 MONO MULTI
IC201 (G-10)
IC202 (J-30) TC4S66F
D205 (J-30) DAP202U
(I-10) Q114 SW
(I-10) Q113 SW
(I-10) Q109 DTA144EU SW
(I-28) IC106 SERIAL/PARALLEL CONVERTER
IC106 MC14094
Q116 XN4210 (I-4) SW
D206 DAP202U (K-26)
D204 DAP202U (F-30)
(H-9) IC206
IC206 CXP-80116 SERVO/SYSTEM CONTROL
31
32
33
(I-37) Q208 2SA1202
(I-37) IC204 LM358
(I-2) Q209 2SC4081
(K-29) Q214 DTC144EU INV
PS201 ICP-N10
Q208,209 5V REG
IC204 CAP ERR AMP. 5V REG CONT
IC202 SW
IC201 SW
(F-31) Q213 INV
Q213 DTC144EU
(E-2)(F-3) Q403,404 SW REG
(E-2) Q402 POWER ON
IC401 (F-37) SW REG CONT
SHIELD CASE
34
35
(J-32) Q416 SW
(I-32) Q415 INV
IC405 CX-20115A
IC403 CXA1004M-E1 (G-3)
IC404 CXA-1127M
no mark : REC/PB
( ) : REC mod
( ) : PB mod
* : Impossible to measure
voltage at the marked po
SV-6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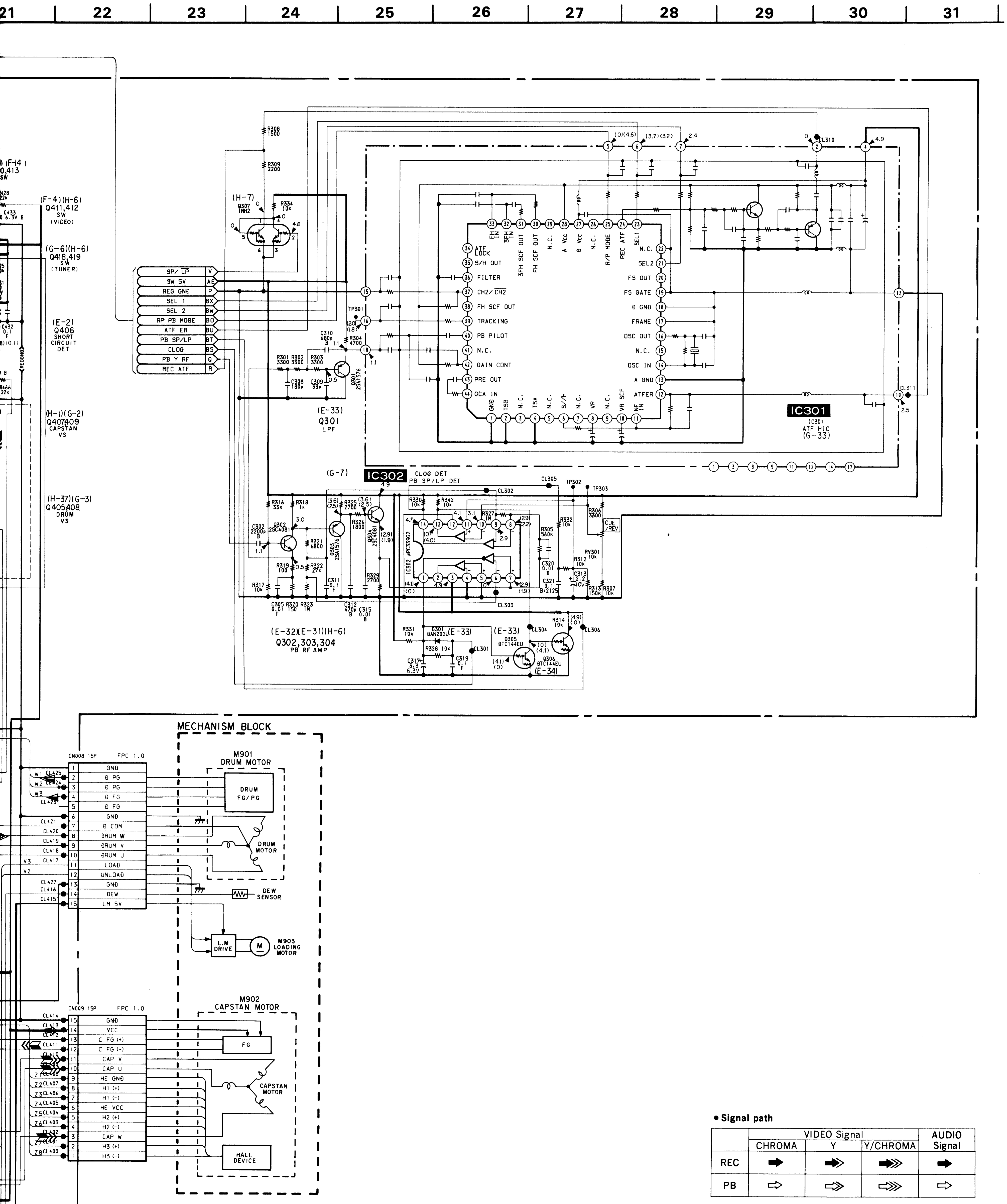
TO DC-22P BOARD W701 (See page 113.)
CN007 16P
(E-2)(F-3) Q403,404 SW REG
(F-14)(F-14) Q410,413 SW
(F-4)(H-6) Q411,412 SW (VIDEO)
(G-6)(H-6) Q418,419 SW (TUNER)
(E-2) Q406 SHORT CIRCUIT DET
(E-2) Q402 POWER ON
IC401 (F-37) SW REG CONT
(H-1)(G-2) Q407,409 CAPSTAN VS
(H-37)(G-3) Q405,408 DRUM VS
SHIELD CASE
(G-38) IC402 COMPALATOR
(I-33) IC405 WAVE SHAPER
(J-32) Q416 SW
(I-32) Q415 INV
IC403 (J-34) DRUM MOTOR DRIVER
(I-35) IC404 CAPSTAN MOTOR DRIVER
(H-7) Q307
(E-33) Q301 LPF
(G-7) IC302 CLOG DET PB SP/LP DET
(E-32)(E-31)(H-6) Q302,303,304 PB RF AMP
(E-33) Q305
MECHANISM BLOCK
CN008 15P FPC 1.0
M901 DRUM MOTOR
DRUM FG/PG
DRUM MOTOR
DEW SENSOR
L.M DRIVE
M903 LOADING MOTOR
CN009 15P FPC 1.0
M902 CAPSTAN MOTOR
FG
CAPSTAN MOTOR
HALL DEVICE
(F-31) Q213 INV
no mark : REC/PB mode
( ) : REC mode
〈 〉 : PB mode
* Impossible to measure the voltage at the marked points.

SV-66 BOARD (1/2) (SYSCON·SERVO)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31
(F-14)
Q411,412 SW (VIDEO)
(G-6)(H-6) Q418,419 SW (TUNER)
(E-2) Q406 SHORT CIRCUIT DET
(H-1)(G-2) Q407,409 CAPSTAN VS
(H-37)(G-3) Q405,408 DRUM VS
(H-7) Q307 1MH2
R308 1500
R309 2200
R334 10k
SP/LP
SW 5V
REG GND
SEL 1
SEL 2
RP PB MODE
ATF ER
PB SP/LP
CLOG
PB Y RF
REC ATF
TP301
C310 680p
R304 4700
R301 3300
R302 3300
R303 3300
C308 180p
C309 33p
(E-33) Q301 LPF
Q301 2SA1576
FH IN
3FH IN
3FH SCF OUT
FH SCF OUT
N.C.
A Vcc
D Vcc
N.C.
R/P MODE
REC ATF
SEL1
ATF LOCK
S/H OUT
FILTER
CH2/CH2
FH SCF OUT
TRACKING
PB PILOT
N.C.
GAIN CONT
PRE OUT
GCA IN
N.C.
SEL2
FS OUT
FS GATE
D GND
FRAME
OSC OUT
N.C.
OSC IN
A GND
ATFER
GND
TSB
TSA
N.C.
S/H
N.C.
VR
N.C.
VR SCF
NF IN
CL310
CL311
IC301
IC301 ATF HIC (G-33)
(G-7)
IC302 CLOG DET PB SP/LP DET
CL305
TP302
TP303
CL302
R316 33k
R318 1k
R325 2700
R326 1800
R330 10k
R342 10k
R327 1M
R332 10k
R306 3300
CUE /REV
C302 2200p
Q302 2SC4081
R321 6800
Q303 2SA1576
Q304 2SC4081
IC302 μPC3390
R305 560k
R319 100
R322 27k
C311 0.1
R329 2700
C320 0.01
RV301 10k
R312 10k
C313 2.2 10V
C321 0.1
R317 10k
R313 150k
R307 10k
C305 0.01
R320 150
R323 1M
C312 470p
C315 0.01
CL303
(E-32)(E-31)(H-6) Q302,303,304 PB RF AMP
R331 10k
D301 DAN202U
(E-33)
R328 10k
C317 3.3 6.3V
C319 0.1
CL301
Q305 DTC144EU
Q306 DTC144EU
R314 10k
CL304
CL306
(E-34)
MECHANISM BLOCK
CN008 15P FPC 1.0
GND
D PG
D PG
D FG
D FG
GND
D COM
DRUM W
DRUM V
DRUM U
LOAD
UNLOAD
GND
DEW
LM 5V
M901 DRUM MOTOR
DRUM FG/PG
DRUM MOTOR
DEW SENSOR
L.M DRIVE
M903 LOADING MOTOR
CN009 15P FPC 1.0
GND
VCC
C FG (+)
C FG (-)
CAP V
CAP U
HE GND
H1 (+)
H1 (-)
HE VCC
H2 (+)
H2 (-)
CAP W
H3 (+)
H3 (-)
M902 CAPSTAN MOTOR
FG
CAPSTAN MOTOR
HALL DEVICE

/O)

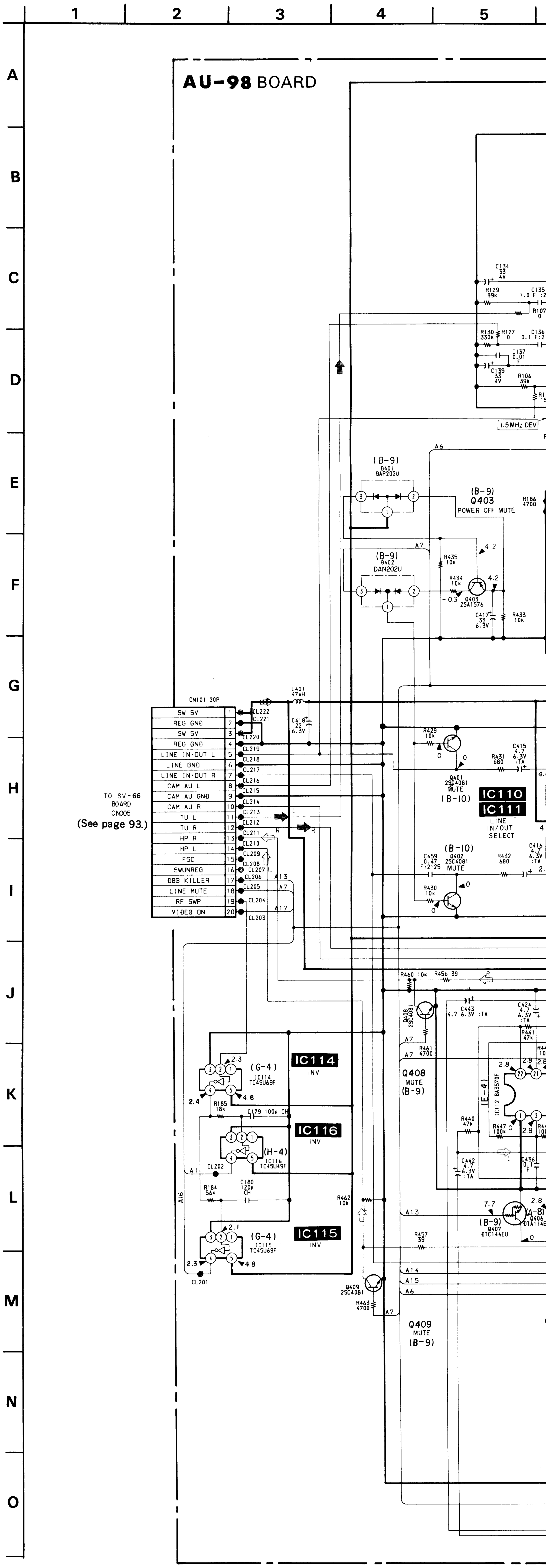
• Signal path

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

• Signal path

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▷»	
Drum servo(speed and phase)		▷»»	
Capstan speed servo		➢	
Capstan phase servo	➤»	➢»	▷»
Capstan servo(speed and phase)		➢»»	
Ref.signal	➤	➢	▷

AU-98 (STEREO AFM PROCESS) SCHEMATIC DIAGRAM
— Ref. No, AU-98 BOARD : 7000 series —



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A
B
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D
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F
G
H
I
J
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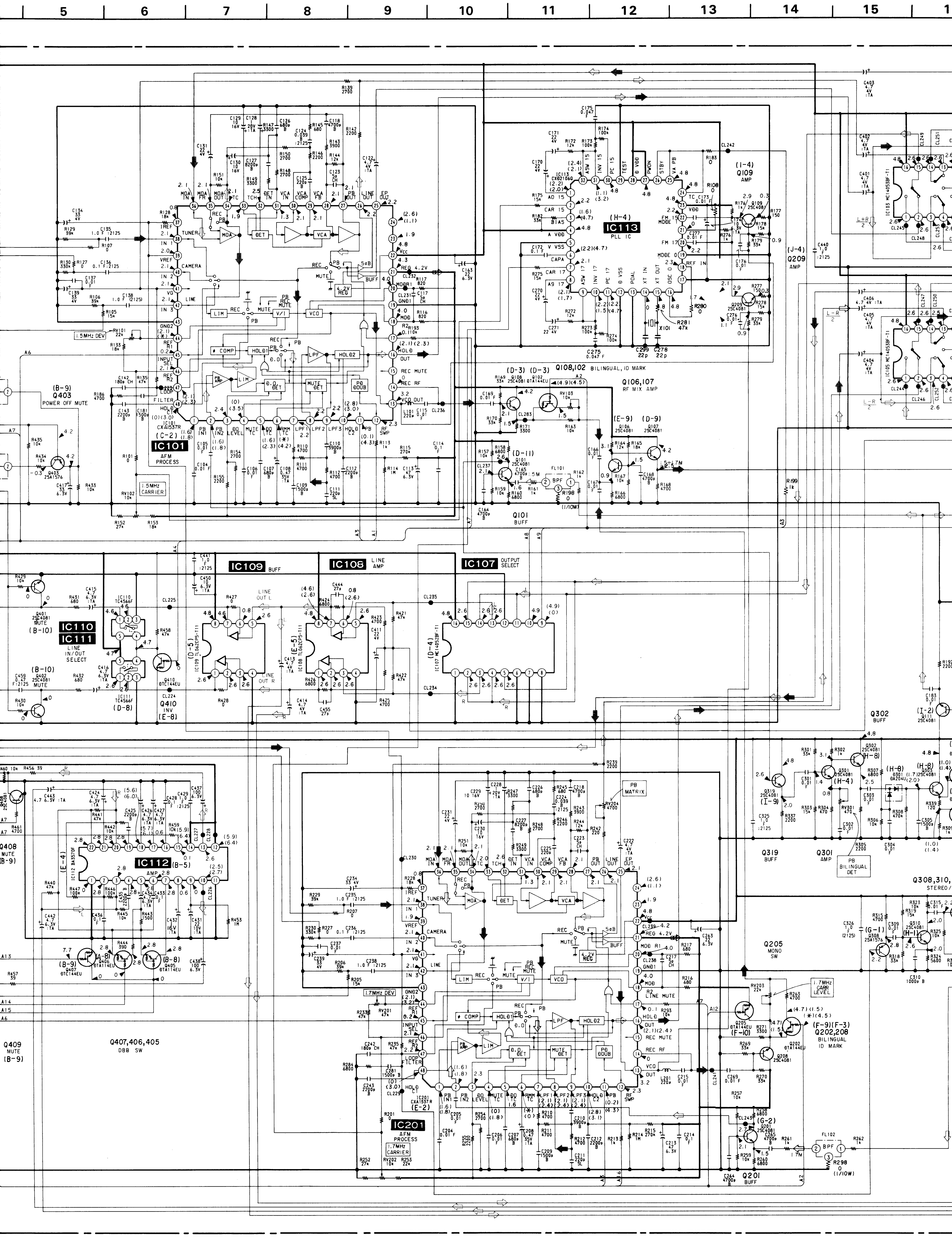
O
AU-98 BOARD
CN101 20P
SW 5V
REG GND
SW 5V
REG GND
LINE IN·OUT L
LINE GND
LINE IN·OUT R
CAM AU L
CAM AU GND
CAM AU R
TU L
TU R
HP R
HP L
FSC
SWUNREG
DBB KILLER
LINE MUTE
RF SWP
VIDEO ON
TO SV-66 BOARD CN005 (See page 93.)
(B-9) Q401 DAP202U
(B-9) Q402 DAN202U
(B-9) Q403 POWER OFF MUTE
Q403 2SA1576
Q401 2SC4081 MUTE (B-10)
IC110
IC111
LINE IN/OUT SELECT
(B-10) Q402 2SC4081 MUTE
IC114 INV
IC116 INV
IC115 INV
(G-4) IC114 TC4SU69F
(H-4) IC116 TC4SU49F
(G-4) IC115 TC4SU69F
Q408 MUTE (B-9)
Q409 MUTE (B-9)
(B-9) Q407 DTC144EU
IC112 BA3570F
(E-4)
1.5MHz DEV
L401 47μH


5
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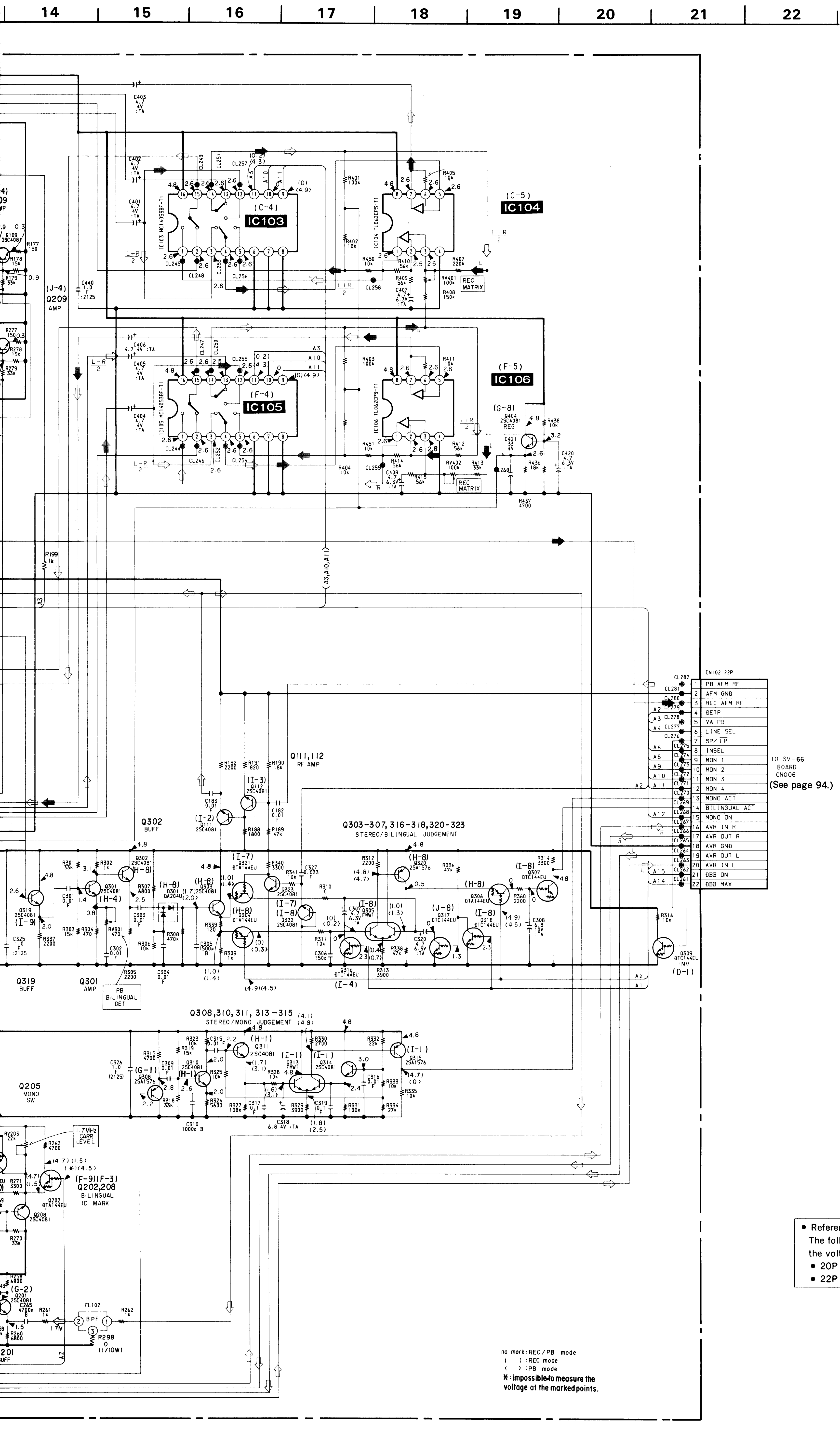
IC101
CXA1537R
AFM PROCESS
(C-2)
1.5MHz DEV
1.5MHz CARRIER
IC113
CX0210GQ
PLL IC
(H-4)
Q109
AMP
(I-4)
Q209
AMP
(J-4)
Q108,102 BILINGUAL, ID MARK
Q106,107
RF MIX AMP
Q101
BUFF
FL101
BPF
X101
IC105 MC14053BF-T1
Q403
POWER OFF MUTE
(B-9)
IC109
BUFF
IC108
LINE AMP
IC107
OUTPUT SELECT
IC109 TL062CPS-T11
IC108 TL062CPS-T11
IC107 MC14052BF-T1
IC110
IC111
LINE IN/OUT SELECT
IC110 TC4566F
IC111 TC4566F
Q401
MUTE
(B-10)
Q402
MUTE
Q410
INV
(E-8)
LINE OUT L
LINE OUT R
IC112
IC112 BA3570F
AMP
(B-5)
(E-4)
Q408
MUTE
(B-9)
Q407
Q406
Q405
Q407,406,405
DBB SW
Q409
MUTE
(B-9)
IC201
CXA1537R
AFM PROCESS
(E-2)
1.7MHz DEV
1.7MHz CARRIER
PB MATRIX
Q319
BUFF
(I-9)
Q301
AMP
(H-4)
Q302
BUFF
Q111
(I-2)
PB BILINGUAL DET
Q308,310,
STEREO/
Q205
MONO SW
1.7MHz CARR LEVEL
Q202,208
BILINGUAL ID MARK
(F-9)(F-3)
(F-10)
Q201
BUFF
(G-2)
FL102
BPF
MOA
LIM
VCA
DET
LPF
HOLD1
HOLD2
COMP
BUFF
VCO
V/I
REG 4.2V
PB AMP
MUTE DET
PB DOUB
TUNER
CAMERA
LINE
REC
PB
MUTE


14
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(C-4) IC103
(C-5) IC104
(F-4) IC105
(F-5) IC106
IC103 MC14053BF-T1
IC104 TL062CPS-T1
IC105 MC14053BF-T1
IC106 TL062CPS-T1
REC MATRIX
(G-8) Q404 2SC4081 REG
(J-4) Q209 AMP
Q111,112 RF AMP
Q302 BUFF
Q303-307,316-318,320-323 STEREO/BILINGUAL JUDGEMENT
Q319 BUFF
Q301 AMP
PB BILINGUAL DET
Q308,310,311,313-315 STEREO/MONO JUDGEMENT
Q205 MONO SW
1.7MHz CARR LEVEL
(F-9)(F-3) Q202,208 BILINGUAL ID MARK
FL102 BPF
201 BUFF
(D-1) Q309 DTC144EU INV
CN102 22P
1 PB AFM RF
2 AFM GND
3 REC AFM RF
4 DETP
5 VA PB
6 LINE SEL
7 SP/ LP
8 INSEL
9 MON 1
10 MON 2
11 MON 3
12 MON 4
13 MONO ACT
14 BILINGUAL ACT
15 MONO ON
16 AVR IN R
17 AVR OUT R
18 AVR GND
19 AVR OUT L
20 AVR IN L
21 DBB ON
22 DBB MAX
TO SV-66 BOARD CN006

(See page 94.)

no mark: REC / PB mode
( ) : REC mode
〈 〉 : PB mode
✱ : Impossible to measure the voltage at the marked points.

- Reference voltage value

The following two types of extension harnes are required to measu the voltage of the AU-98 board

- 20P extension harness (J-6082-111-A)
- 22P extension harness (J-6082-112-A)

- **Signal path**

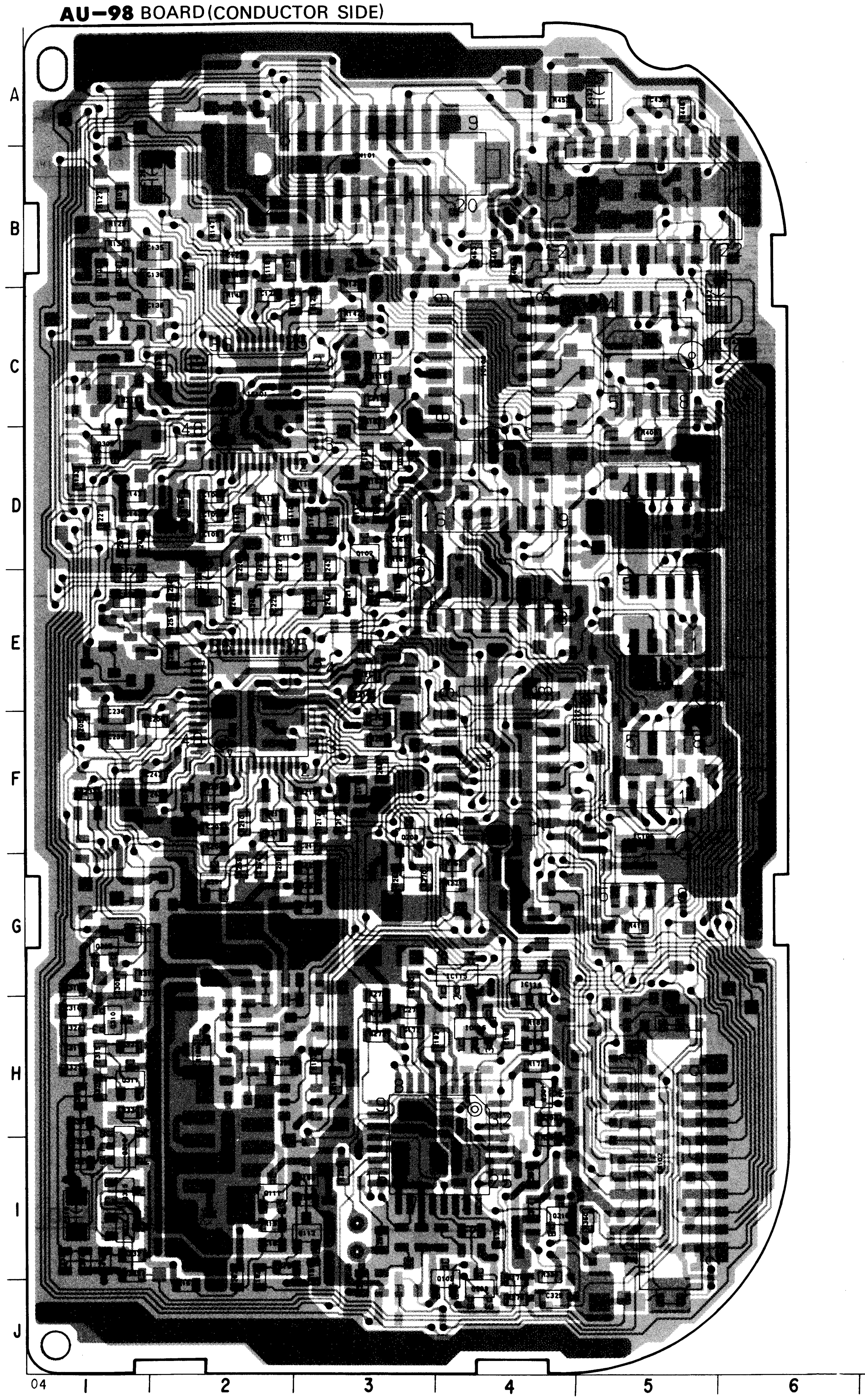
	AUDIO Signal
REC	➡
PB	⇨

AUDIO AUDIO

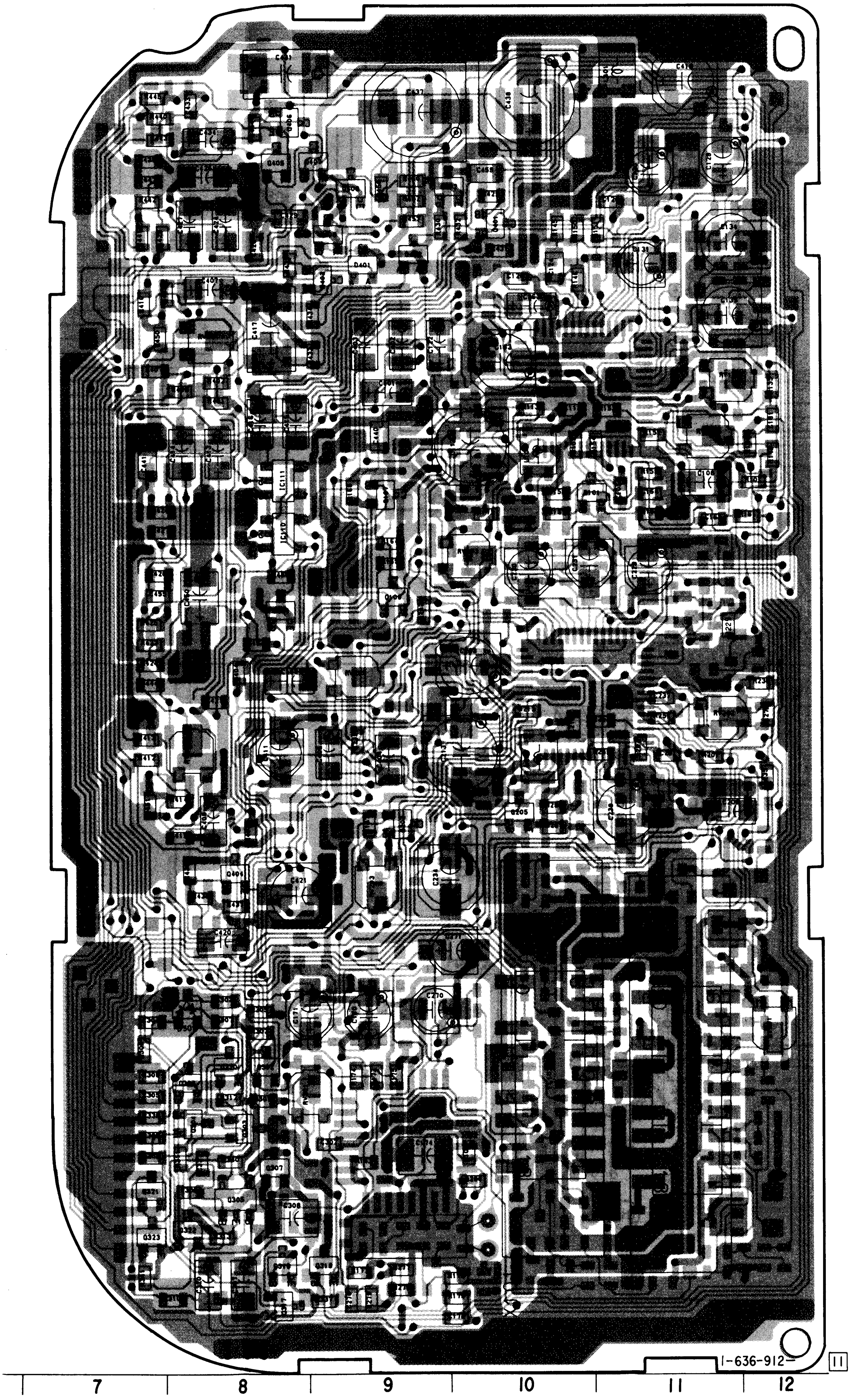
AU-98 (STEREO AFM PROCESS) PRINTED WIRING BOARD

— Ref. No, AU-98 BOARD : 7000 series —

AU–98 BOARD (CONDUCTOR SIDE)



AU–98 BOARD (COMPONENT SIDE)



DIODE

D301	8-719-941-23	DIODE DA204U
D401	8-719-941-09	DIODE DAP202U
D402	8-719-941-86	DIODE DAN202U

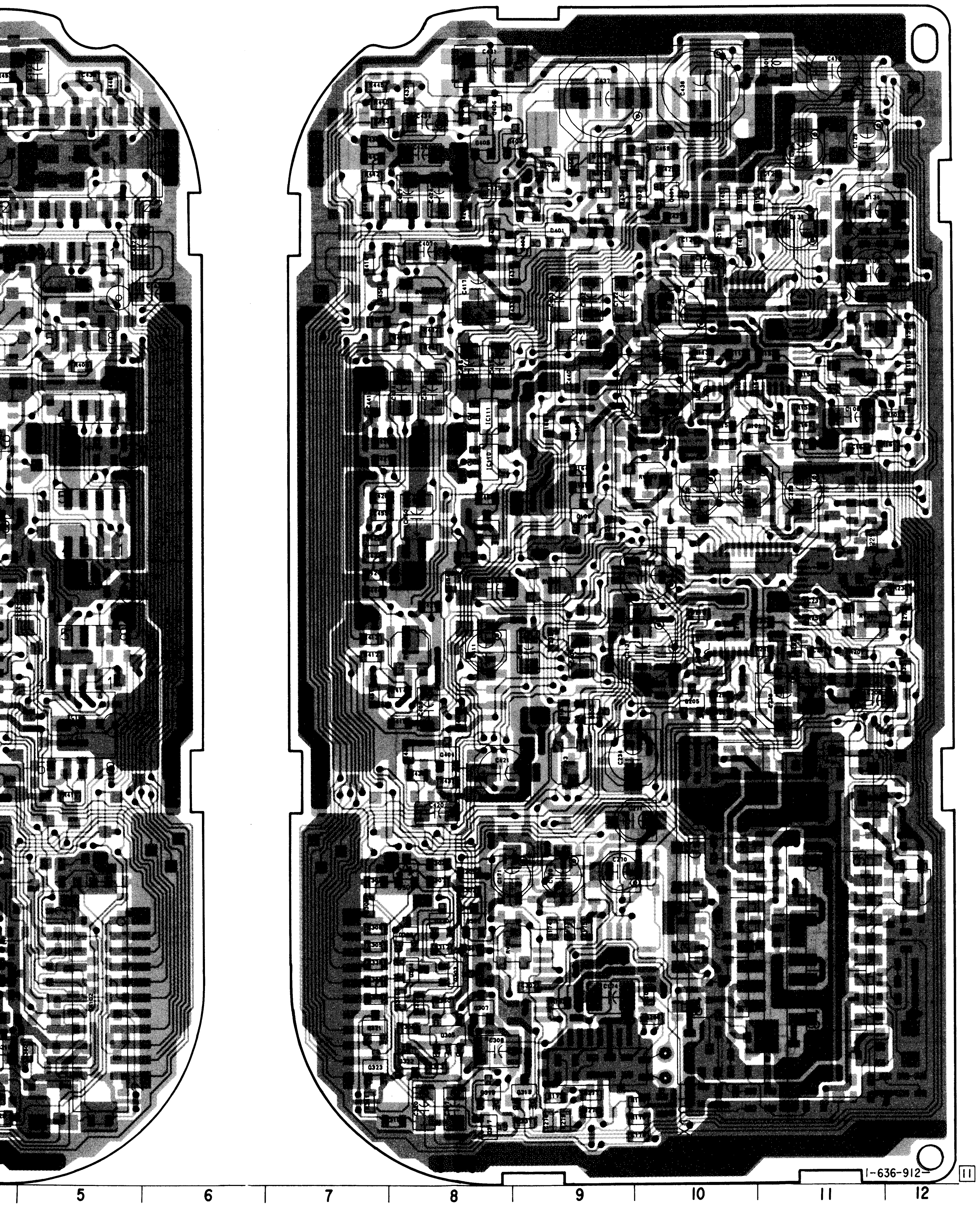
IC

IC101	8-752-053-04	IC CXA1537R
IC103	8-759-009-07	IC MC14053BF
IC104	8-759-030-16	IC MC34182M
IC105	8-759-009-07	IC MC14053BF
IC106	8-759-030-16	IC MC34182M
IC107	8-759-009-06	IC MC14052BF
IC108	8-759-030-16	IC MC34182M
IC109	8-759-030-16	IC MC34182M
IC110	8-759-234-77	IC TC4S66F
IC111	8-759-234-77	IC TC4S66F
IC112	8-759-991-27	IC BA3570F
IC113	8-752-334-42	IC CXD2106Q
IC114	8-759-209-15	IC TC4SU69F
IC115	8-759-209-15	IC TC4SU69F
IC116	8-759-209-15	IC TC4SU69F
IC201	8-752-053-04	IC CXA1537R

TRANSISTOR

Q101	8-729-905-35	TRANSISTOR 2SC4081R
Q102	8-729-905-12	TRANSISTOR DTA144EU
Q106	8-729-905-35	TRANSISTOR 2SC4081R
Q107	8-729-905-35	TRANSISTOR 2SC4081R
Q108	8-729-905-35	TRANSISTOR 2SC4081R
Q109	8-729-905-35	TRANSISTOR 2SC4081R
Q111	8-729-905-35	TRANSISTOR 2SC4081R
Q112	8-729-905-35	TRANSISTOR 2SC4081R
Q201	8-729-905-35	TRANSISTOR 2SC4081R
Q202	8-729-905-12	TRANSISTOR DTA144EU
Q205	8-729-905-12	TRANSISTOR DTA144EU
Q208	8-729-905-35	TRANSISTOR 2SC4081R
Q209	8-729-905-35	TRANSISTOR 2SC4081R
Q301	8-729-905-35	TRANSISTOR 2SC4081R
Q302	8-729-905-35	TRANSISTOR 2SC4081R
Q303	8-729-905-35	TRANSISTOR 2SC4081R
Q304	8-729-905-12	TRANSISTOR DTA144EU
Q305	8-729-903-10	TRANSISTOR FMW1
Q306	8-729-905-12	TRANSISTOR DTA144EU
Q307	8-729-905-18	TRANSISTOR DTC144EU
Q308	8-729-905-23	TRANSISTOR 2SA1576R
Q309	8-729-905-18	TRANSISTOR DTC144EU
Q310	8-729-905-35	TRANSISTOR 2SC4081R
Q311	8-729-905-35	TRANSISTOR 2SC4081R
Q313	8-729-903-10	TRANSISTOR FMW1
Q314	8-729-905-35	TRANSISTOR 2SC4081R
Q315	8-729-905-23	TRANSISTOR 2SA1576R
Q316	8-729-905-18	TRANSISTOR DTC144EU
Q317	8-729-905-18	TRANSISTOR DTC144EU
Q318	8-729-905-18	TRANSISTOR DTC144EU
Q319	8-729-905-35	TRANSISTOR 2SC4081R
Q320	8-729-905-23	TRANSISTOR 2SA1576R
Q321	8-729-905-12	TRANSISTOR DTA144EU
Q322	8-729-905-35	TRANSISTOR 2SC4081R
Q323	8-729-905-35	TRANSISTOR 2SC4081R
Q401	8-729-905-35	TRANSISTOR 2SC4081R
Q402	8-729-905-35	TRANSISTOR 2SC4081R
Q403	8-729-905-23	TRANSISTOR 2SA1576R
Q404	8-729-905-35	TRANSISTOR 2SC4081R
Q405	8-729-920-XX	TRANSISTOR DTA114EU
Q406	8-729-920-XX	TRANSISTOR DTA114EU
Q407	8-729-905-18	TRANSISTOR DTC144EU
Q408	8-729-905-35	TRANSISTOR 2SC4081R
Q409	8-729-905-35	TRANSISTOR 2SC4081R
Q410	8-729-905-18	TRANSISTOR DTC144EU

AU-98 BOARD(COMPONENT SIDE)



DIODE

D301	8-719-941-23	DIODE DA204U
D401	8-719-941-09	DIODE DAP202U
D402	8-719-941-86	DIODE DAN202U

IC

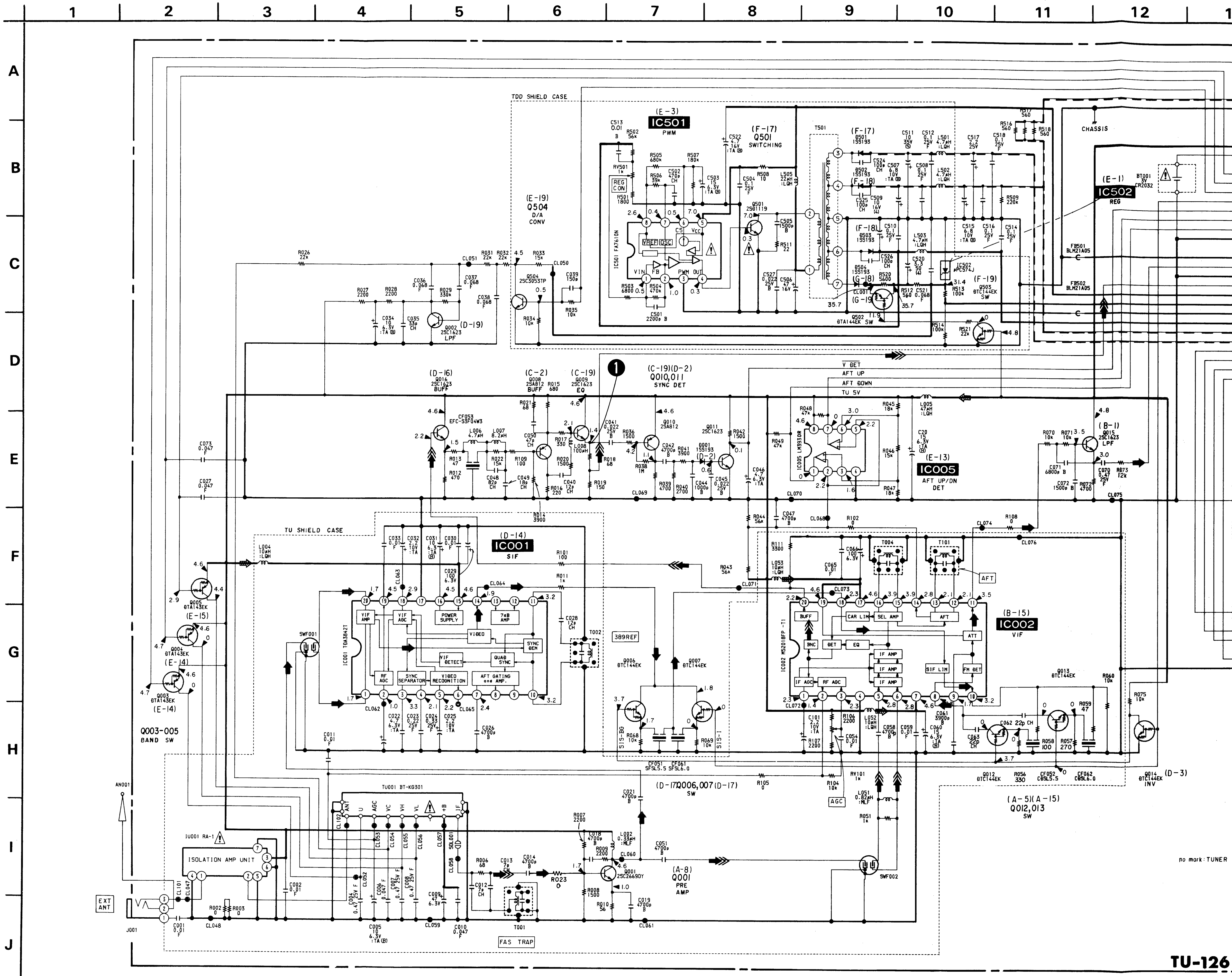
IC101	8-752-053-04	IC CXA1537R
IC103	8-759-009-07	IC MC14053BF
IC104	8-759-030-16	IC MC34182M
IC105	8-759-009-07	IC MC14053BF
IC106	8-759-030-16	IC MC34182M
IC107	8-759-009-06	IC MC14052BF
IC108	8-759-030-16	IC MC34182M
IC109	8-759-030-16	IC MC34182M
IC110	8-759-234-77	IC TC4S66F
IC111	8-759-234-77	IC TC4S66F
IC112	8-759-991-27	IC BA3570F
IC113	8-752-334-42	IC CXD2106Q
IC114	8-759-209-15	IC TC4SU69F
IC115	8-759-209-15	IC TC4SU69F
IC116	8-759-209-15	IC TC4SU69F
IC201	8-752-053-04	IC CXA1537R

TRANSISTOR

Q101	8-729-905-35	TRANSISTOR 2SC4081R
Q102	8-729-905-12	TRANSISTOR DTA144EU
Q106	8-729-905-35	TRANSISTOR 2SC4081R
Q107	8-729-905-35	TRANSISTOR 2SC4081R
Q108	8-729-905-35	TRANSISTOR 2SC4081R
Q109	8-729-905-35	TRANSISTOR 2SC4081R
Q111	8-729-905-35	TRANSISTOR 2SC4081R
Q112	8-729-905-35	TRANSISTOR 2SC4081R
Q201	8-729-905-35	TRANSISTOR 2SC4081R
Q202	8-729-905-12	TRANSISTOR DTA144EU
Q205	8-729-905-12	TRANSISTOR DTA144EU
Q208	8-729-905-35	TRANSISTOR 2SC4081R
Q209	8-729-905-35	TRANSISTOR 2SC4081R
Q301	8-729-905-35	TRANSISTOR 2SC4081R
Q302	8-729-905-35	TRANSISTOR 2SC4081R
Q303	8-729-905-35	TRANSISTOR 2SC4081R
Q304	8-729-905-12	TRANSISTOR DTA144EU
Q305	8-729-903-10	TRANSISTOR FMW1
Q306	8-729-905-12	TRANSISTOR DTA144EU
Q307	8-729-905-18	TRANSISTOR DTC144EU
Q308	8-729-905-23	TRANSISTOR 2SA1576R
Q309	8-729-905-18	TRANSISTOR DTC144EU
Q310	8-729-905-35	TRANSISTOR 2SC4081R
Q311	8-729-905-35	TRANSISTOR 2SC4081R
Q313	8-729-903-10	TRANSISTOR FMW1
Q314	8-729-905-35	TRANSISTOR 2SC4081R
Q315	8-729-905-23	TRANSISTOR 2SA1576R
Q316	8-729-905-18	TRANSISTOR DTC144EU
Q317	8-729-905-18	TRANSISTOR DTC144EU
Q318	8-729-905-18	TRANSISTOR DTC144EU
Q319	8-729-905-35	TRANSISTOR 2SC4081R
Q320	8-729-905-23	TRANSISTOR 2SA1576R
Q321	8-729-905-12	TRANSISTOR DTA144EU
Q322	8-729-905-35	TRANSISTOR 2SC4081R
Q323	8-729-905-35	TRANSISTOR 2SC4081R
Q401	8-729-905-35	TRANSISTOR 2SC4081R
Q402	8-729-905-35	TRANSISTOR 2SC4081R
Q403	8-729-905-23	TRANSISTOR 2SA1576R
Q404	8-729-905-35	TRANSISTOR 2SC4081R
Q405	8-729-920-XX	TRANSISTOR DTA114EU
Q406	8-729-920-XX	TRANSISTOR DTA114EU
Q407	8-729-905-18	TRANSISTOR DTC144EU
Q408	8-729-905-35	TRANSISTOR 2SC4081R
Q409	8-729-905-35	TRANSISTOR 2SC4081R
Q410	8-729-905-18	TRANSISTOR DTC144EU

SB-3P (FUNCTION SW), TU-126 (TUNER, VIF, SIF, DC/DC CONVERTER) SCHEMATIC DIAGRAM

— Ref. No, SB-3P and TU-126 BOARDS : 6000 series —



1
2
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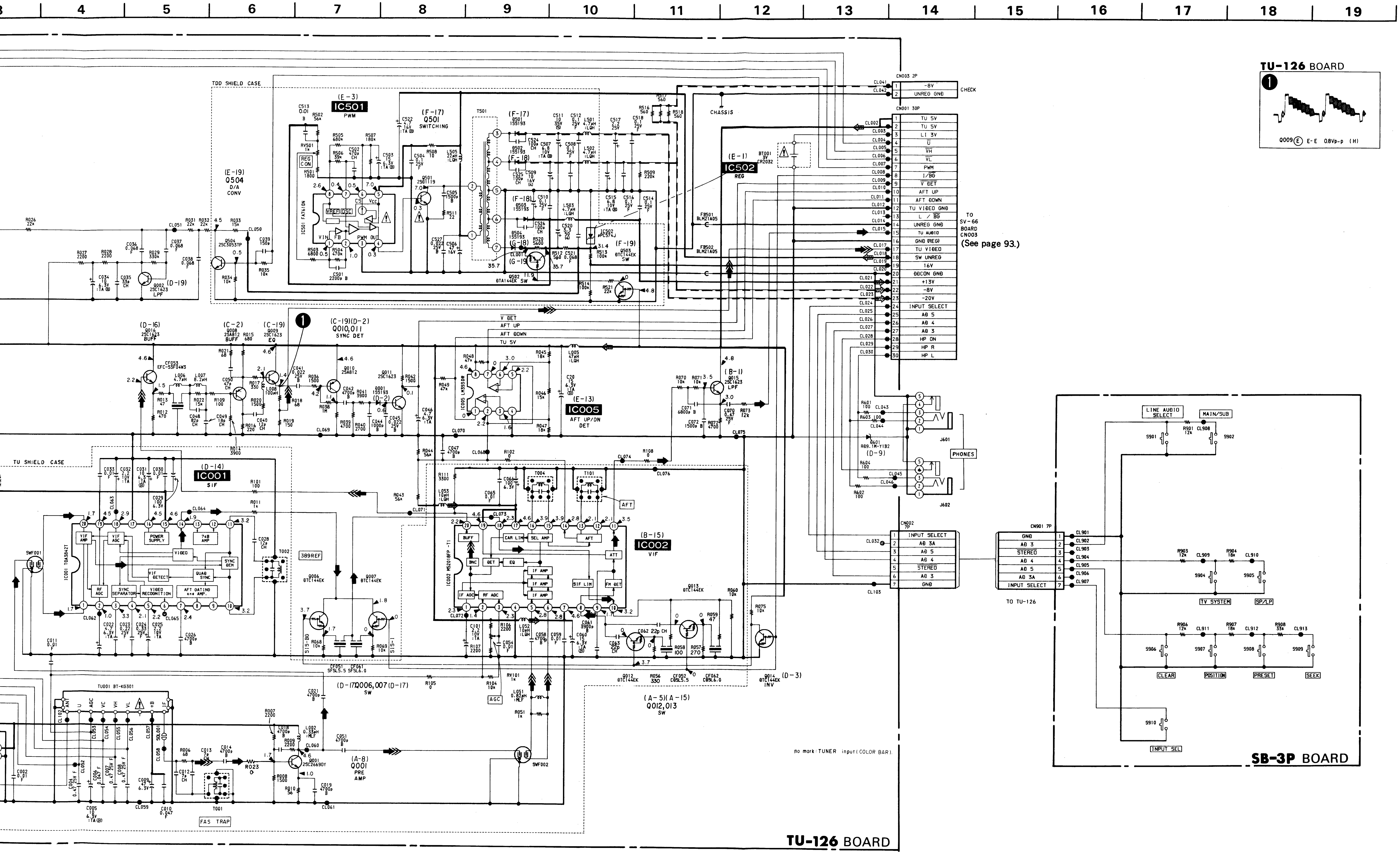
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
TDD SHIELD CASE
(E-3) IC501 PWM
(F-17) Q501 SWITCHING
T501
CHASSIS
(E-1) IC502 REG
BT001 3V CR2032
(E-19) Q504 D/A CONV
FB501 BLM21A05
FB502 BLM21A05
(F-19) Q503 DTC144EK SW
Q502 DTA144EK SW
(D-16) Q016 2SC1623 BUFF
(C-2) Q008 2SA812 BUFF
(C-19) Q009 2SC1623 EQ
(C-19)(D-2) Q010,011 SYNC DET
(D-19) Q002 2SC1623 LPF
V DET
AFT UP
AFT DOWN
TU 5V
(E-13) IC005 AFT UP/DN DET
(B-11) Q015 2SC1623 LPF
TU SHIELD CASE
(D-14) IC001 SIF
VIF AMP
VIF AGC
POWER SUPPLY
7dB AMP
VIDEO
SYNC DEM
VIF DETECT
QUAD SYNC
RF AGC
SYNC SEPARATOR
VIDEO RECOGNITION
AFT GATING and AMP.
389REF
(B-15) IC002 VIF
BUFF
CAR LIM
SEL AMP
AFT
ATT
BNC
DET
EQ
IF AMP
SIF LIM
FM DET
IF AGC
RF AGC
T004
T101
AFT
T002
Q003-005 BAND SW
(E-15) Q005 DTA143EK
Q004 DTA143EK
(E-14) Q003 DTA143EK
SWF001
Q006 DTC144EK
Q007 DTC144EK
(D-17)Q006,007(D-17) SW
Q013 DTC144EK
Q012 DTC144EK
(A-5)(A-15) Q012,013 SW
Q014 DTC144EK INV
(D-3)
AGC
TU001 BT-KG301
IU001 RA-1
ISOLATION AMP UNIT
AN001
EXT ANT
J001
(A-8) Q001 PRE AMP
SWF002
FAS TRAP
T001
no mark : TUNER
TU-126

● Signal path

	VIDEO Signal			AUDIO Signal
	CHROMA	Y	Y/CHROMA	
REC			⇛	➡


3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
TU-126 BOARD
❶
Q009 (E) E-E 0.8Vp-p (H)
TDD SHIELD CASE
(E-3)
IC501
PWM
(F-17)
Q501
SWITCHING
T501
(F-17)
(F-18)
(E-19)
Q504
D/A
CONV
(E-1)
IC502
REG
(F-19)
Q503
SW
(G-18)
(G-19)
Q502
DTA144EK SW
IC502 μPC574J
CHASSIS
BT001 3V CR2032
CN003 2P
-8V
UNREG GND
CHECK
CN001 30P
TU 5V
TU 5V
LI 3V
U
VH
VL
PWM
I/BG
V DET
AFT UP
AFT DOWN
TU VIDEO GND
L / BG
UNREG GND
TU AUDIO
GND (REG)
TU VIDEO
SW UNREG
16V
DCDCON GND
+13V
-8V
-20V
INPUT SELECT
AD 5
AD 4
AD 3
HP ON
HP R
HP L
TO SV-66 BOARD CN003
(See page 93.)
(D-19)
Q002
2SC1623
LPF
(D-16)
Q016
2SC1623
BUFF
(C-2)
Q008
2SA812
BUFF
(C-19)
Q009
2SC1623
EQ
(C-19)(D-2)
Q010,011
SYNC DET
(D-2)
V DET
AFT UP
AFT DOWN
TU 5V
(E-13)
IC005
AFT UP/DN
DET
(B-11)
Q015
2SC1623
LPF
TU SHIELD CASE
(D-14)
IC001
SIF
VIF AMP
VIF AGC
POWER SUPPLY
7dB AMP
VIDEO
VIF DETECT
QUAD SYNC
SYNC GEN
RF AGC
SYNC SEPARATOR
VIDEO RECOGNITION
AFT GATING and AMP.
IC001 TDA3842I
SWF001
T002
389REF
Q006
DTC144EK
Q007
DTC144EK
(D-17)Q006,007(D-17)
SW
T004
T101
AFT
(B-15)
IC002
VIF
BUFF
CAR LIM
SEL AMP
AFT
ATT
BNC
DET
EQ
IF AMP
SIF LIM
FM DET
IF AGC
RF AGC
IC002 M52018FP-T1
Q013
DTC144EK
Q012
DTC144EK
(A-5)(A-15)
Q012,013
SW
Q014
DTC144EK
INV
(D-3)
AGC
TU001 BT-KG301
T001
FAS TRAP
(A-8)
Q001
PRE
AMP
SWF002
no mark : TUNER input (COLOR BAR)
TU-126 BOARD
J601
PHONES
J602
(D-9)
D601
CN002 7P
INPUT SELECT
AD 3A
AD 5
AD 4
STEREO
AD 3
GND
CN901 7P
GND
AD 3
STEREO
AD 4
AD 5
AD 3A
INPUT SELECT
TO TU-126
LINE AUDIO SELECT
MAIN/SUB
TV SYSTEM
SP/LP
CLEAR
POSITION
PRESET
SEEK
INPUT SEL
SB-3P BOARD

TUNER, POWER TUNER, POWER

SB-3P (FUNCTION SW), TU-126 (TUNER, VIF, SIF, DC/DC CONVERTER) PRINTED WIRING BOARDS

— Ref. No, SB-3P and TU-126 BOARDS : 6000 series —

DIODE

D001	8-719-801-50	DIODE MA152WK
D501	8-719-801-50	DIODE MA152WK
D502	8-719-801-50	DIODE MA152WK
D503	8-719-801-50	DIODE MA152WK
D504	8-719-801-50	DIODE MA152WK
D601	8-719-106-44	DIODE RD9.1M-B2

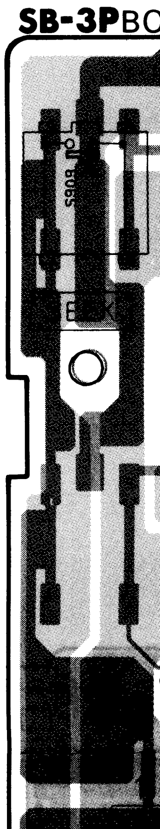
IC

IC001	8-759-504-59	IC TDA3842T-T
IC002	8-759-634-94	IC M52018FP
IC005	8-759-998-92	IC LM393D
IC501	8-759-500-70	IC FA7610N
IC502	8-759-157-40	IC UPC574J

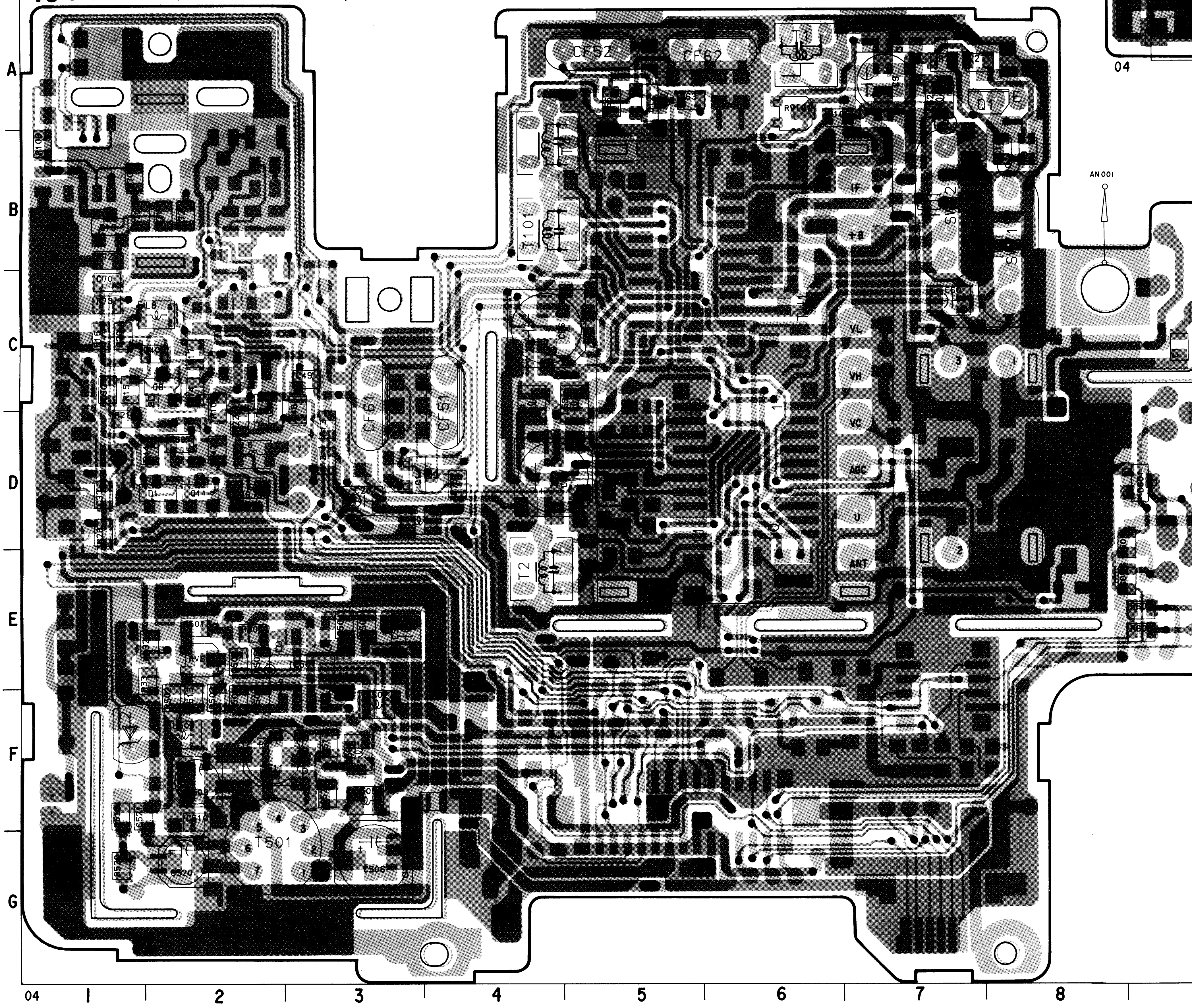
TRANSISTOR

Q001	8-729-230-XX	TRANSISTOR 2SC2669OY
Q002	8-729-100-66	TRANSISTOR 2SC1623
Q003	8-729-901-47	TRANSISTOR DTA143EK
Q004	8-729-901-47	TRANSISTOR DTA143EK
Q005	8-729-901-47	TRANSISTOR DTA143EK
Q006	8-729-901-01	TRANSISTOR DTC144EK
Q007	8-729-901-01	TRANSISTOR DTC144EK
Q008	8-729-216-22	TRANSISTOR 2SA1162
Q009	8-729-100-66	TRANSISTOR 2SC1623
Q010	8-729-216-22	TRANSISTOR 2SA1162
Q011	8-729-100-66	TRANSISTOR 2SC1623
Q012	8-729-901-01	TRANSISTOR DTC144EK
Q013	8-729-901-01	TRANSISTOR DTC144EK
Q014	8-729-901-01	TRANSISTOR DTC144EK
Q015	8-729-100-66	TRANSISTOR 2SC1623
Q016	8-729-100-66	TRANSISTOR 2SC1623
Q501	8-729-421-15	TRANSISTOR 2SD1119-Q
Q502	8-729-901-06	TRANSISTOR DTA144EK
Q503	8-729-901-01	TRANSISTOR DTC144EK
Q504	8-729-601-58	TRANSISTOR 2SC3053-C

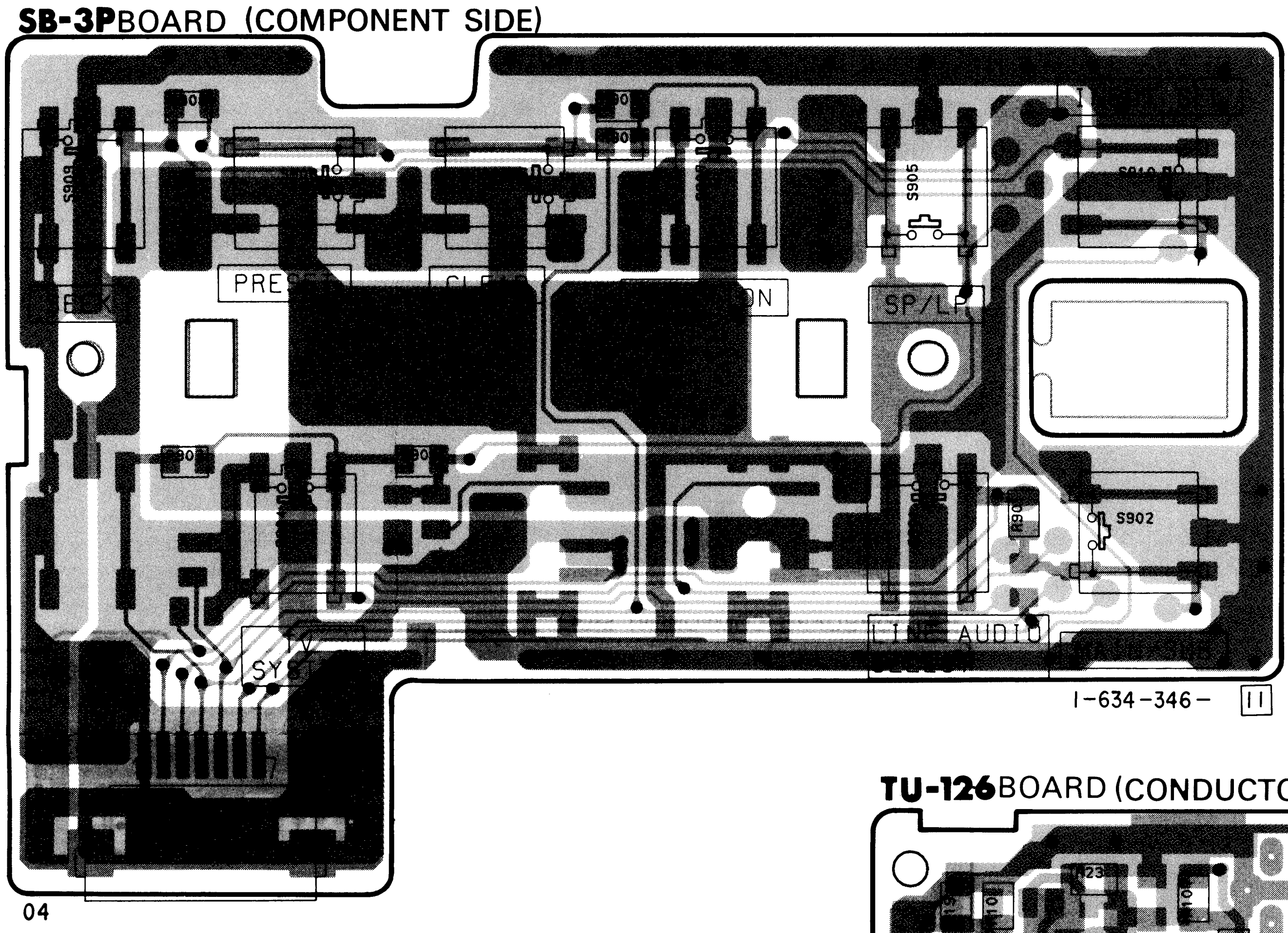
SB-3PBO

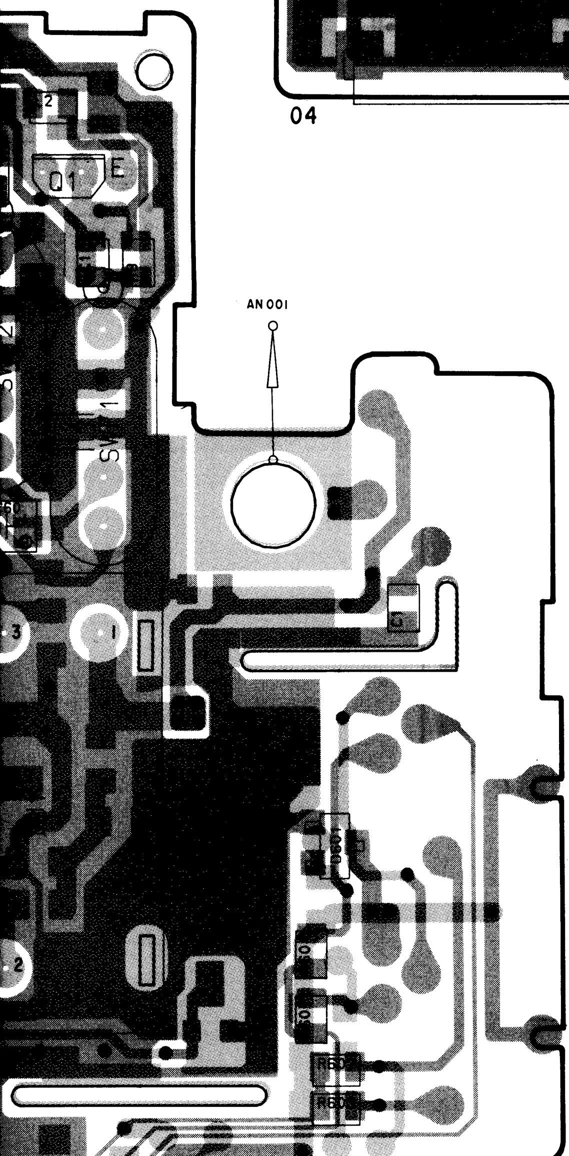


TU-126 BOARD (COMPONENT SIDE)

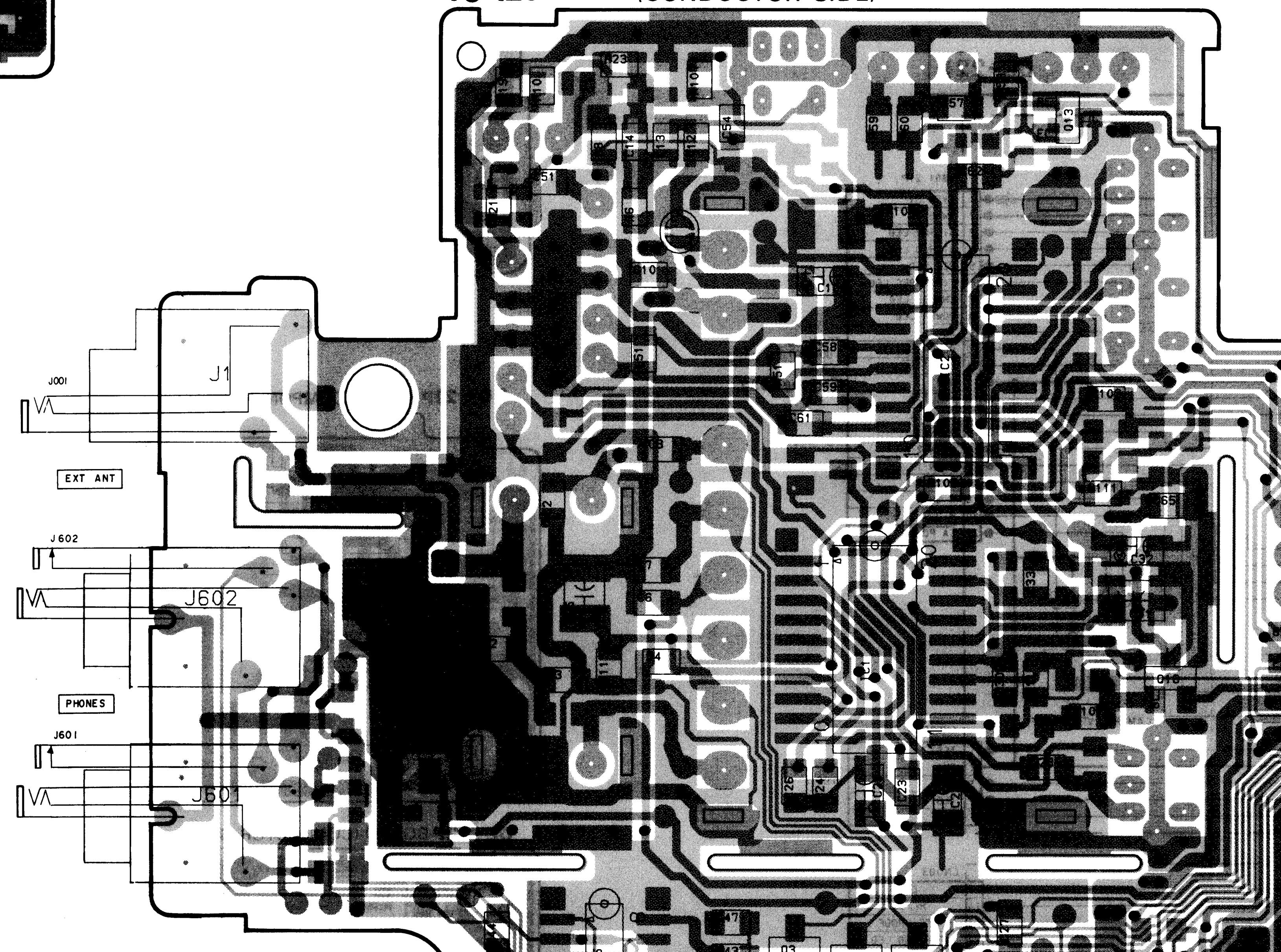


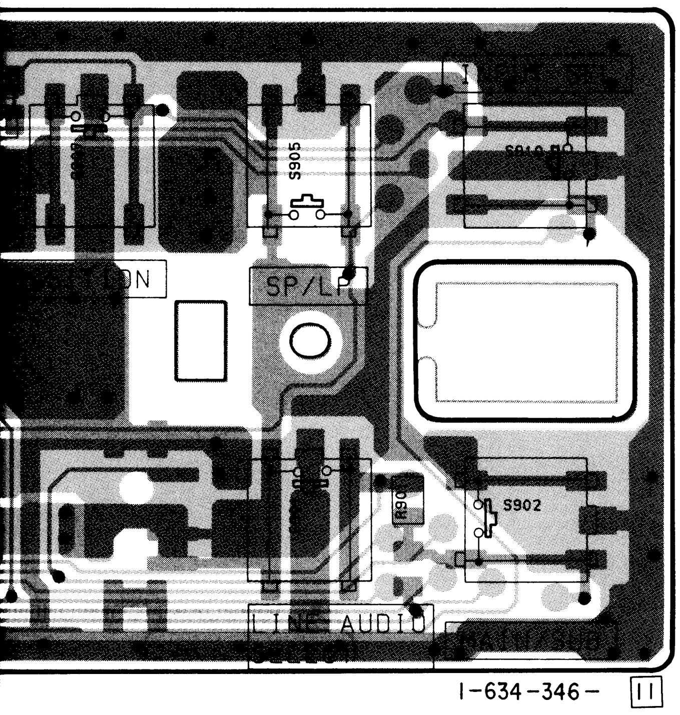
SB-3P BOARD (COMPONENT SIDE)


S909
PRESET
SP/LP
S905
S910
S902
LINE AUDIO
SYS
1-634-346- 11
04

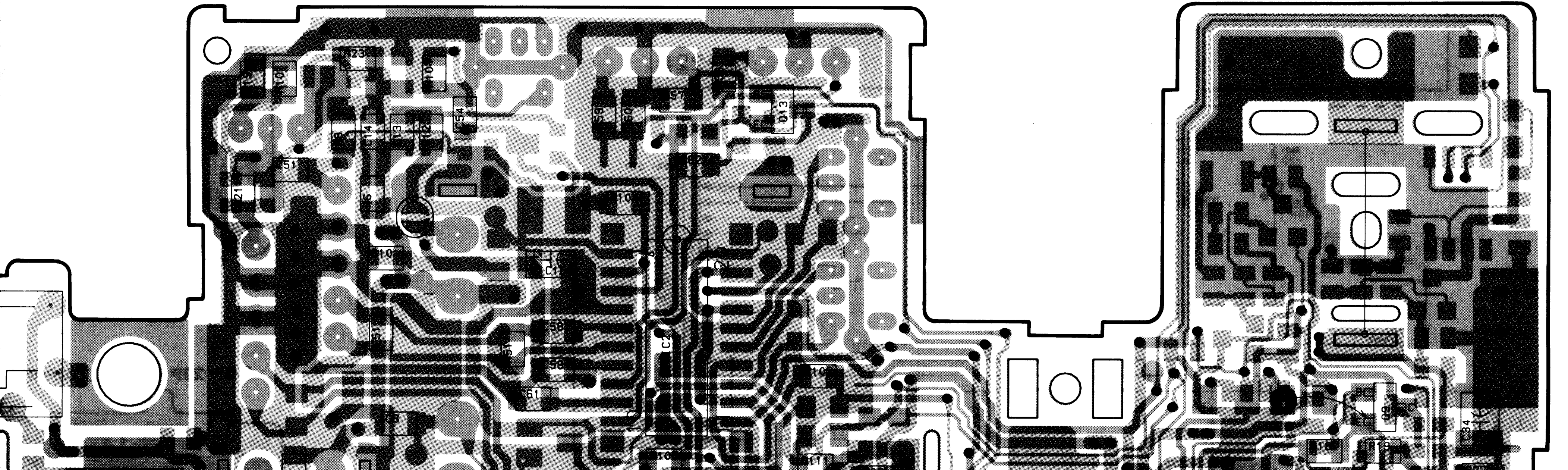


TU-126 BOARD (CONDUCTOR SIDE)


J001
J1
EXT ANT
J602
J602
PHONES
J601
J601
CN2
Q13
8
9
10
11
12
13
14
15
16

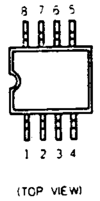

S905
S910
SP/LP
S902
LINE AUDIO
1-634-346- 11

TU-126 BOARD (CONDUCTOR SIDE)

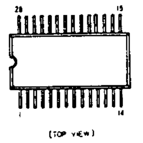

CN2
CN3
CF503
D501
D502
D503
D504
11
12
13
14
15
16
17
18
19

4-3. SEMICONDUCTORS

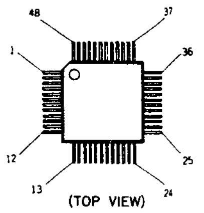
AK93C57F
FA7610N
LM311D
LM358D
LM358PS
LM393D
MC34182M
LM393ML
NJM2073M
NJM2233BM


8 7 6 5
1 2 3 4
(TOP VIEW)

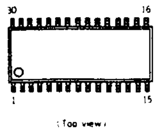
BA3570F
CXA1138M



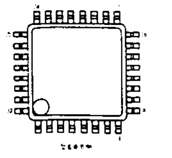
CXA1124AQ
CXA1208R
CXA1537R
MB606199


48
37
1
36
12
25
13
24
(TOP VIEW)

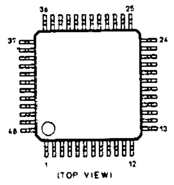
CXA1127M
CXA8006M


30
16
1
15
(TOP VIEW)

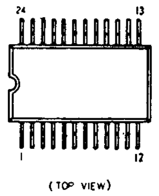
CXA1201Q



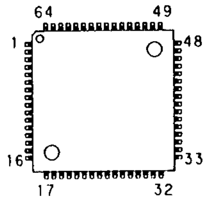
CXA1202R



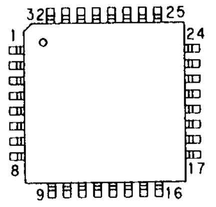
CXA1203N
M52007FP


24
13
1
12
(TOP VIEW)

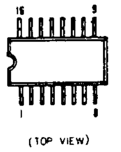
CXA1207


64
49
1
48
16
33
17
32

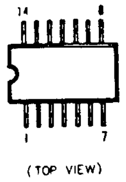
CXD2106Q


32
25
1
24
8
17
9
16

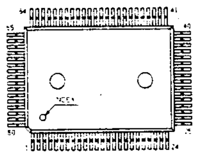
CXD2107M
CXL1506M
CX20115A
MB3775PF
MC14053BF


16
9
1
8
(TOP VIEW)

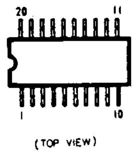
CXL5502M
µPC339G2
µPD6451AGT-601


14
8
1
7
(TOP VIEW)

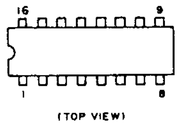
CXP50116
CXP80116
MC14094BF



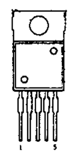
CX20102
M52018FP
TDA3842T-T


20
11
1
10
(TOP VIEW)

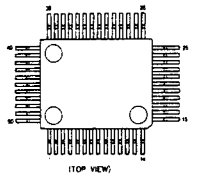
MC10H116M


16
9
1
8
(TOP VIEW)

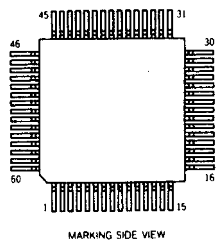
MC14052BF



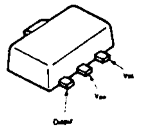
M51406FP



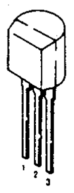
M52003T-T


45
31
46
30
60
16
1
15
MARKING SIDE VIEW

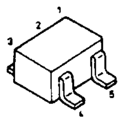
S-8052ALO-LG-S
S-8054-ALR-LN-S



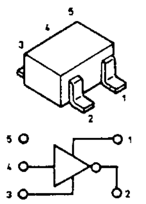
S-81350HG



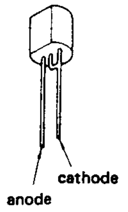
TC4SU69F
TC4S66F
TC4S81F



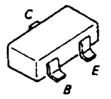
TC7S00F



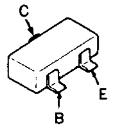
µPC574J


cathode
anode

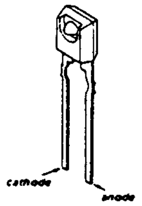
DTA114EK
DTA124EK
DTA143EK
DTA144EK
DTC114EK
DTC124EK
DTC144EK
DTC144WK
2SA1037K
2SA1162
2SA1179
2SA1576
2SB624
2SC1623
2SC2223
2SC2412K
2SC3053
2SC3326N
2SC4081



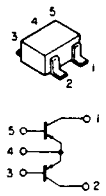
DTA114EU
DTA144EU
DTC114EU
DTC124EU
DTC143EU
DTC144EU
DTC144TU
DTC144WU
2SD1119



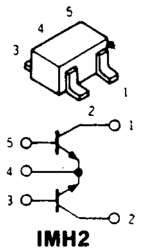
EE-TP109


cathode
anode

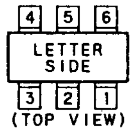
FMS1
FMY3
FMY4



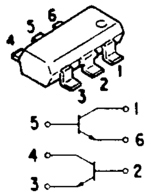
FMW1
FMW2



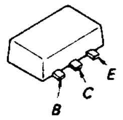
IMH2
IMX2


4 5 6
LETTER SIDE
3 2 1
(TOP VIEW)

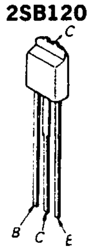
XN4210



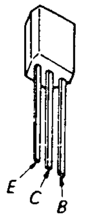
2SB1121



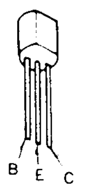
2SB1202



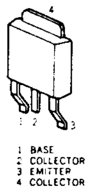
2SC2669



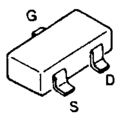
2SC3355



2SD1760


1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

2SK209G



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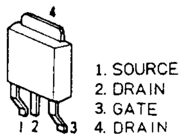
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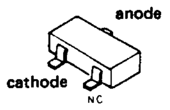
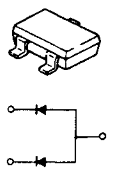
2. DRAIN
3. GATE
4. DRAIN

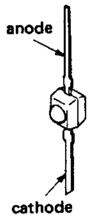
DAN202U
DA204U


anode
cathode
NC

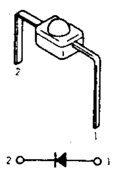
DAP202U



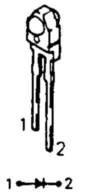
GL-1EG11


anode
cathode

GL-1HY111
GL-1PR102



GL452S



HZS12A1L
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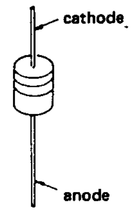
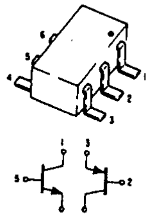
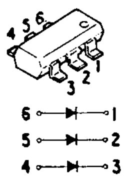

cathode
anode

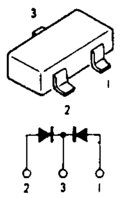
IMD2



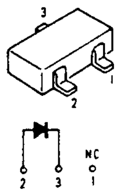
IMN10
MA121



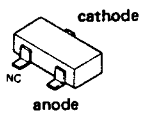
MA152WK



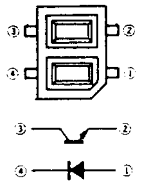
RD3.6M-B2
RD5.1M-B2
RD5.6M-B2
RD6.2M-B1
RD9.1M-B1
RD9.1M-B2
SB01-05CP
SB05-05CP



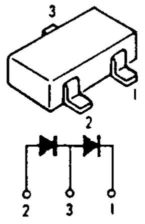
SB10-05PCP


cathode
NC
anode

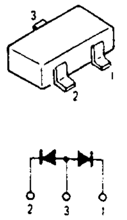
TLP-907



1SS226



1S2836

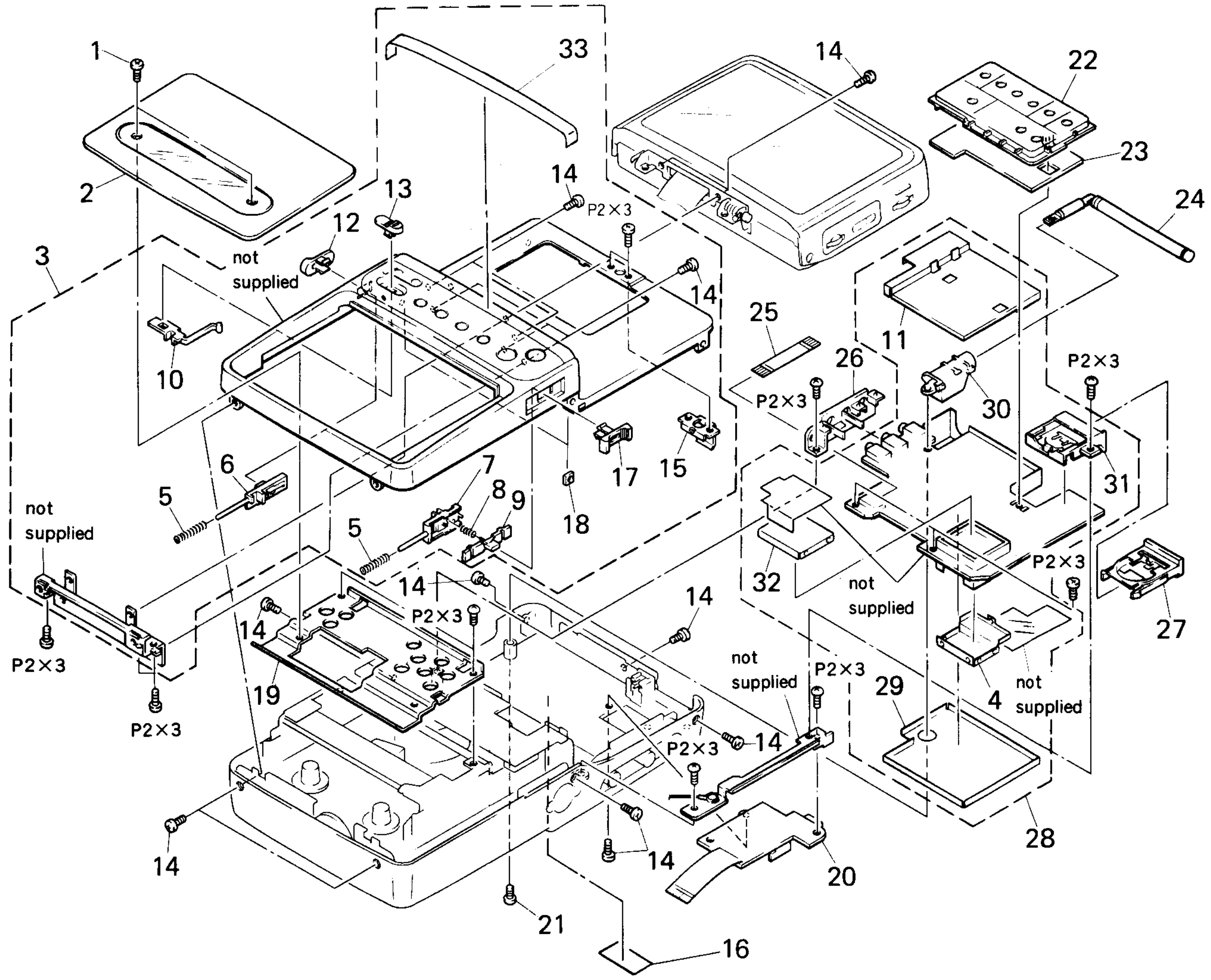


SECTION 5
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

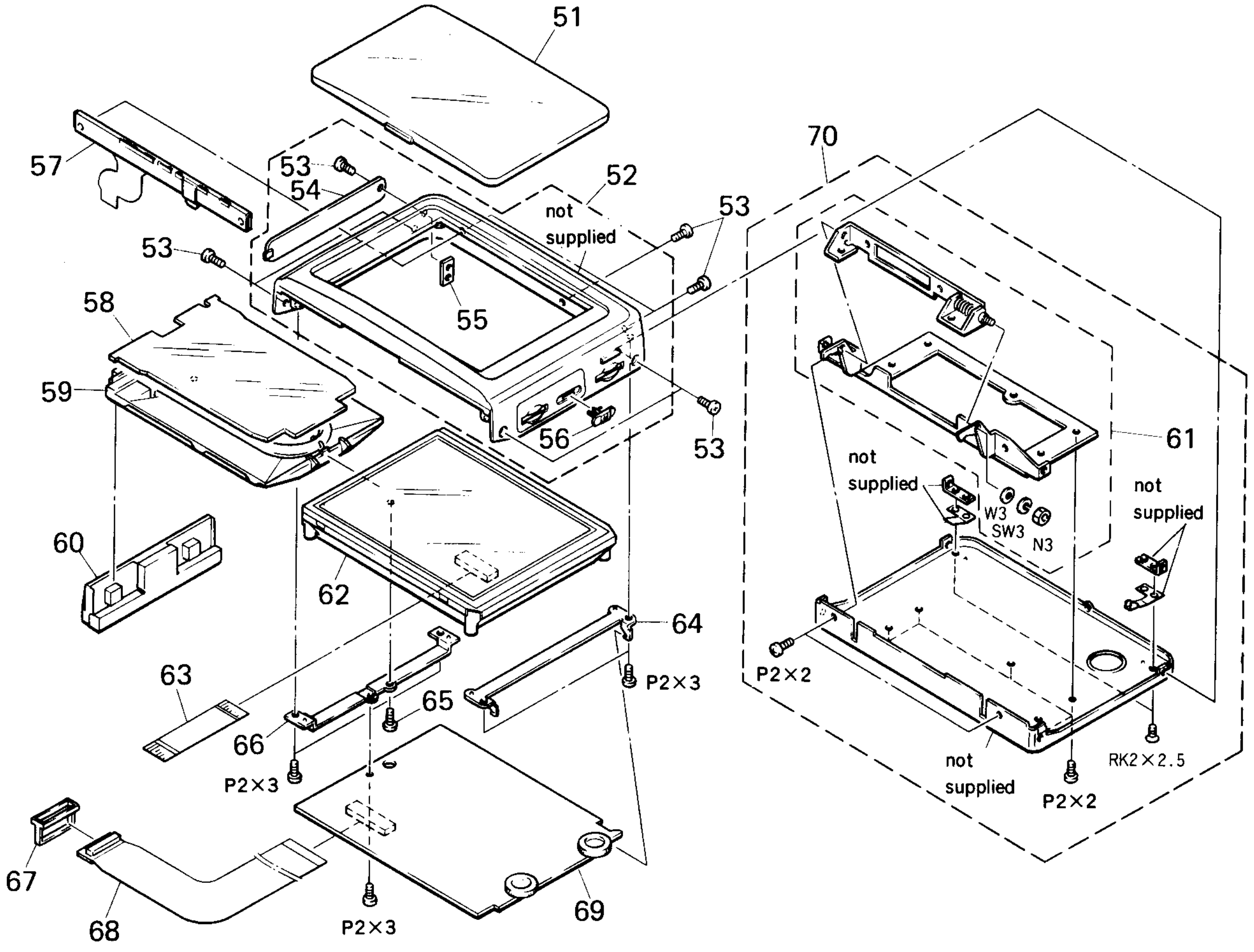
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. CABINET (UPPER) ASSEMBLY


1
2
3
not supplied
10
5
6
not supplied
P2×3
P2×3
33
12
13
14
P2×3
14
7
8
9
5
17
15
18
14
P2×3
19
14
14
21
16
22
23
24
25
26
P2×3
11
30
P2×3
31
32
not supplied
P2×3
27
not supplied
P2×3
29
4
not supplied
14
P2×3
20
28

No.	Part No.	Description	Remark
1	3-719-555-11	SCREW (M1.7X5.5)	
2	X-3940-024-1	LID ASSY, CASSETTE COMPARTMENT (AEP, UK MODEL)	
	X-3940-018-1	LID ASSY, CASSETTE COMPARTMENT (Germany MODEL)	
3	X-3940-025-1	CABINET ASSY, UPPER	5-10,12-15,17,18,33
4	3-746-907-01	LID, TDD SHIELD CASE	
5	3-741-137-01	SPRING, COMPRESSION	
6	3-740-655-01	BUTTON, EJECT LOCK	
7	3-744-133-01	PLATE, SLIDE, POWER	
8	3-303-973-00	SPRING, COMPRESSION	
9	3-744-128-01	BUTTON, POWER LOCK	
10	3-744-132-01	PLATE, SLIDE, REC	
11	X-3728-886-1	LID ASSY, TU SHIELD CASE	
12	3-740-647-01	BUTTON, EJECT	
13	3-740-648-11	BUTTON, POWER (REC)	
14	3-719-381-01	SCREW (M2X4)	
15	X-3940-043-1	PLATE, LOCK ASSY	
16	*3-940-211-01	LABEL, MODEL NUMBER (E)	
17	3-744-131-01	BUTTON, POWER	
18	3-718-233-01	NUT, PLATE	
19	X-3940-021-1	REINFORCEMENT ASSY	
20	*A-7071-288-A	DC-22P BOARD, COMPLETE	
21	3-719-381-21	SCREW (M2X6)	
22	X-3940-020-1	HOLDER ASSY, SB	
23	*A-7071-290-A	SB-3P BOARD, COMPLETE	
24	1-501-456-11	ANTENNA, TELESCOPIC	
25	1-575-856-11	CABLE, FLAT (1.0MM PITCH) 7 CORE	
26	3-744-165-01	COVER, HP JACK (AEP, UK MODEL)	
	3-744-165-31	COVER, HP JACK (Germany MODEL)	
27	X-3728-883-1	HOLDER ASSY, BATTERY	
28	*A-7062-438-A	TU-126 BOARD, COMPLETE	4, 11, 29-32
29	3-746-915-01	LID, REAR, TU SHILED CASE	
30	3-744-166-01	HOLDER, ANTENNA	
31	X-3728-887-1	GUIDE ASSY, BATTERY	
32	3-746-908-01	LID, REAR, TDD SHILED CASE	
33	3-744-134-31	PLATE, TRANSPARENT, LED	

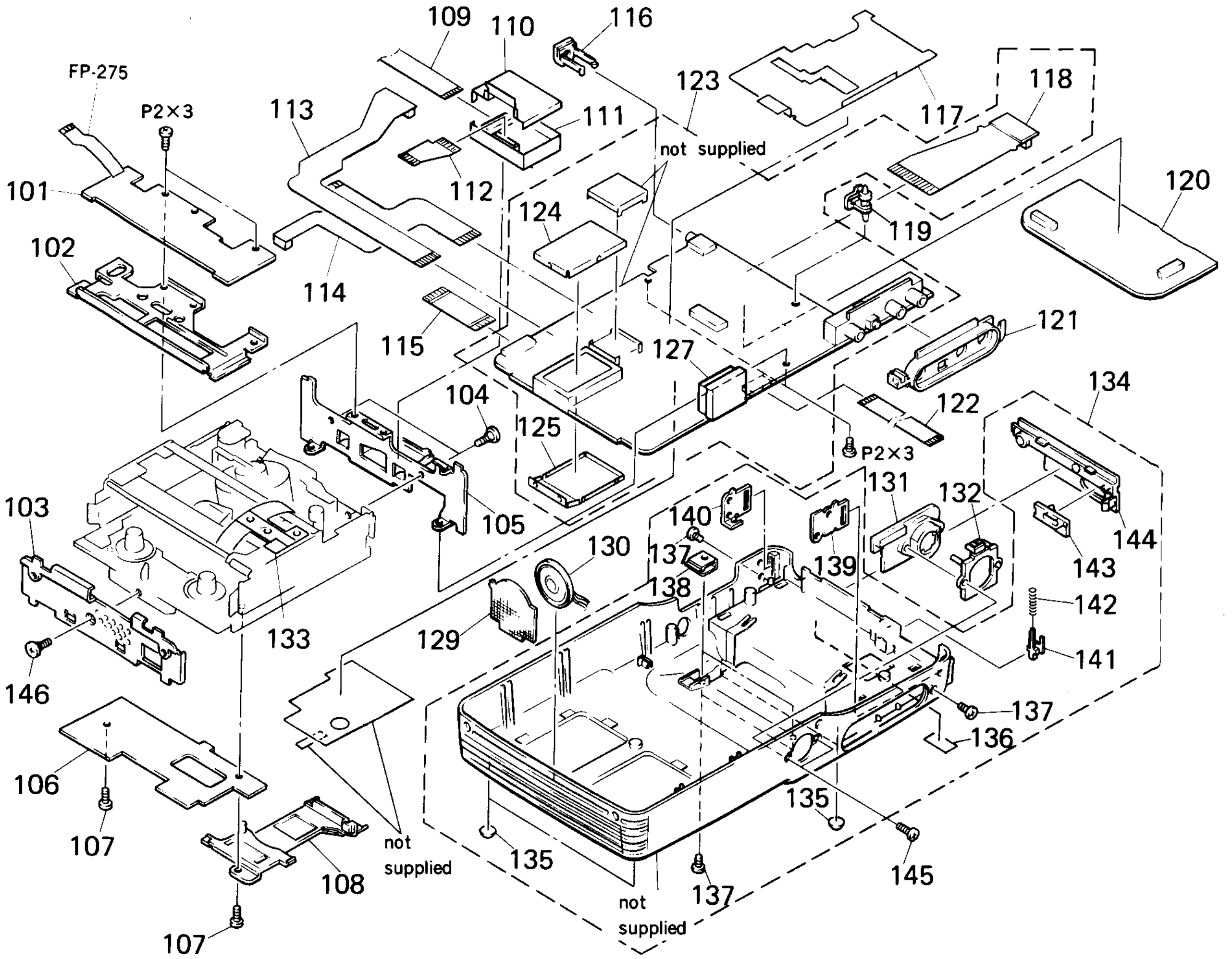
5-2. SC UNIT ASSEMBLY


51
57
53
54
52
not supplied
53
53
55
58
59
56
53
70
61
not supplied
W3
SW3
N3
not supplied
60
62
64
P2×3
P2×2
63
65
66
P2×3
not supplied
RK2×2.5
P2×2
67
68
P2×3
69

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remark
51	3-941-319-01	WINDOW, SC	
52	X-3940-023-1	CABINET ASSY, UPPER, SC	
53	3-719-381-01	SCREW (M2X4)	
54	3-744-174-01	COVER, SIDE	
55	3-730-103-01	NUT, PLATE	
56	3-744-162-01	KNOB, DBB	
57	1-466-334-11	SWITCH BLOCK, CONTROL	
58	3-744-127-01	CURTAIN	
59	1-518-668-11	TUBE UNIT, FLUORECENT (BL901)	
60	⚠.1-466-333-11	INVERTER UNIT, DC-AC	
61	X-3749-223-1	ARM, HINGE ASSY	
62	1-809-002-12	DISPLAY MODULE, LIQUID CRYSTAL (LCD901)	
63	1-575-858-11	CABLE, FLAT (1.0MM PITCH) 16 CORE (LCD FLEXIBLE)	
64	*3-744-198-01	BRACKET (R), LCD	
65	3-719-408-01	SCREW (B2), TAPPING, P3	
66	*3-744-199-01	BRACKET (L), LCD	
67	3-744-152-01	HOLDER, FPC	
68	1-634-994-11	FP-271 FLEXIBLE BOARD	
69	*A-7062-437-A	RG-22 BOARD, COMPLETE	
70	X-3940-019-1	CABINET ASSY, BOTTOM, SC	61

5-3. CABINET (LOWER) ASSEMBLY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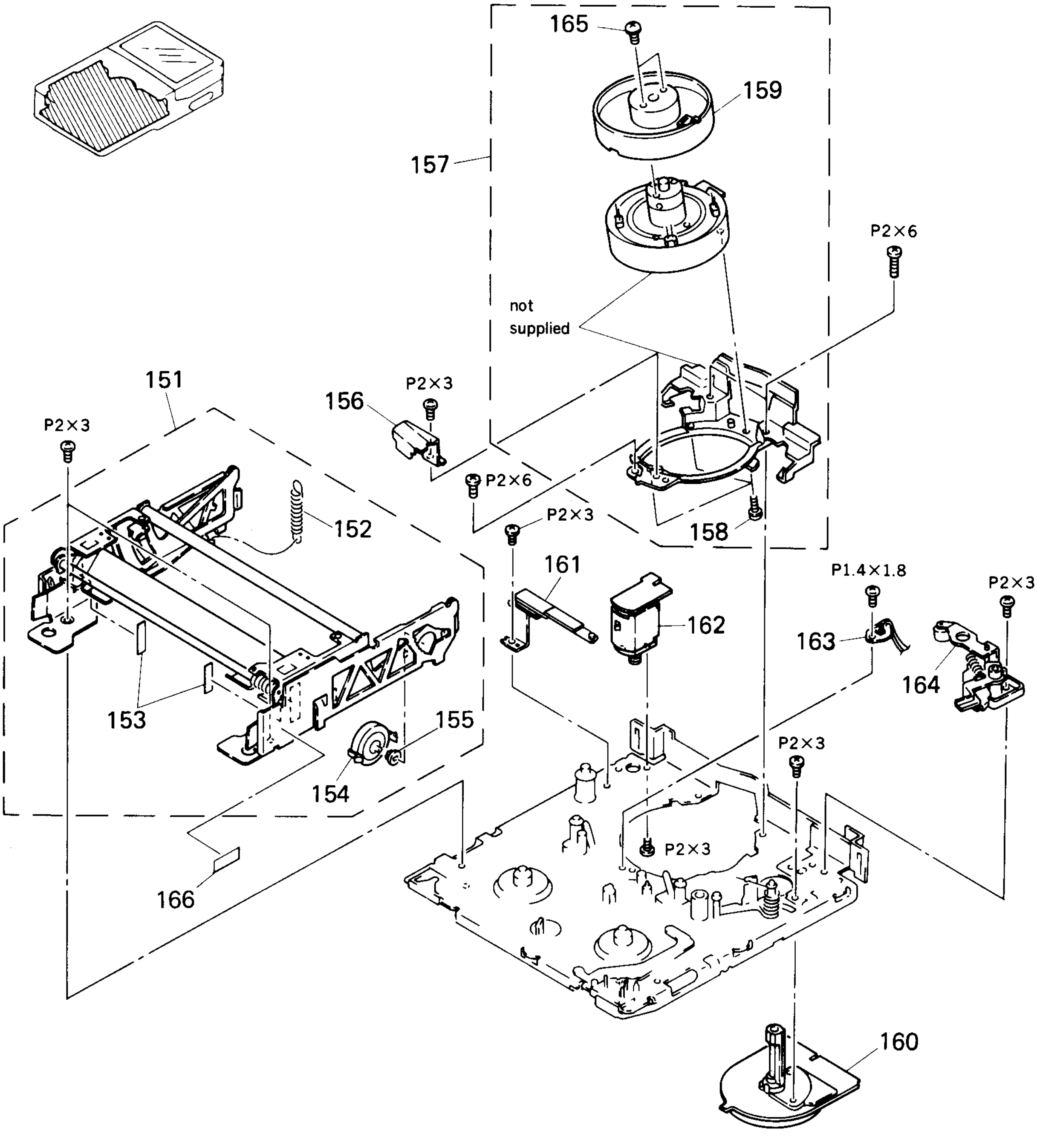
110
116
FP-275
P2×3
113
111
123
118
117
not supplied
101
112
120
124
119
102
114
121
115
127
134
104
122
125
P2×3
131
132
103
140
105
144
130
137
143
138
139
142
133
129
141
146
137
136
106
135
107
not supplied
135
145
108
137
not supplied
107

No.	Part No.	Description	Remark
101	*A-7071-287-A	**KB-10P BOARD,COMPLETE**	
102	X-3728-889-1	FRAME ASSY, KB	
103	X-3728-884-1	FRAME (FRONT) ASSY, MD	
104	3-732-791-11	SCREW (M2X3)	
105	X-3728-891-1	FRAME (REAR) ASSY, MD	
106	*1-634-347-11	UC-6 BOARD	
107	3-719-408-01	SCREW (B2), TAPPING, P3	
108	*3-744-176-01	COVER, MD	
109	1-634-992-11	FP-269 FLEXIBLE BOARD	
110	X-3728-885-1	LID ASSY, RP SHIELD CASE	
111	*A-7062-433-A	RP-105 BOARD, COMPLETE	
112	1-634-996-11	FP-273 FLEXIBLE BOARD	
113	1-634-997-11	FP-274 FLEXIBLE BOARD	
114	1-634-995-11	FP-272 FLEXIBLE BOARD	
115	1-575-859-11	CABLE, FLAT (1.0MM PITCH) 15 CORE	
116	3-744-169-01	COVER, CS JACK	
117	***3-941-171-01**	COVER, SV	
118	1-634-993-11	FP-270 FLEXIBLE BOARD	
119	3-742-816-01	SUPPORT (V), PC BOARD	
120	*A-7062-434-A	AU-98 BOARD, COMPLETE	
121	3-744-175-01	COVER, IO JACK	
122	1-575-857-11	CABLE, FLAT (1.0MM PITCH) 12 CORE	
123	*A-7062-435-A	SV-66 BOARD, COMPLETE	118, 124-128
124	*3-746-902-01	CASE (LID), SHIELD, SDD	
125	*X-3728-888-1	LID ASSY, REAR, SDD SHIELD CASE	
127	A-7062-436-A	CC-55 BOARD, COMPLETE	
129	X-3728-892-1	SPACER ASSY, SP	
130	1-544-323-11	SPEAKER	
131	*A-7071-289-A	**CN-6P BOARD, COMPLETE**	
132	3-744-157-01	SPACER, CN	
133	**3-746-960-01**	**RIBBON, LID RETAINER**	
134	X-3940-022-1	CABINET ASSY, LOWER	135-144
135	3-740-607-01	CUSHION	
136	*3-747-370-01	LABEL, BATTERY FITTING	
137	3-719-381-01	SCREW (M2X4)	
138	3-736-496-01	BRACKET, STAND	
139	3-744-156-01	HOOK (R), BELT	
140	3-744-155-01	HOOK (L), BELT	
141	3-744-159-01	LEVER, RELEASE	
142	3-564-951-00	SPRING, COMPRESSION	
143	3-744-161-01	KNOB, RELEASE	
144	3-744-168-01	COVER, ANTENNA	
145	3-719-381-21	SCREW (M2X6)	
146	3-744-603-11	SCREW	

5-4. MECHANISM DECK ASSEMBLY (1)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159
157
P2×6
not supplied
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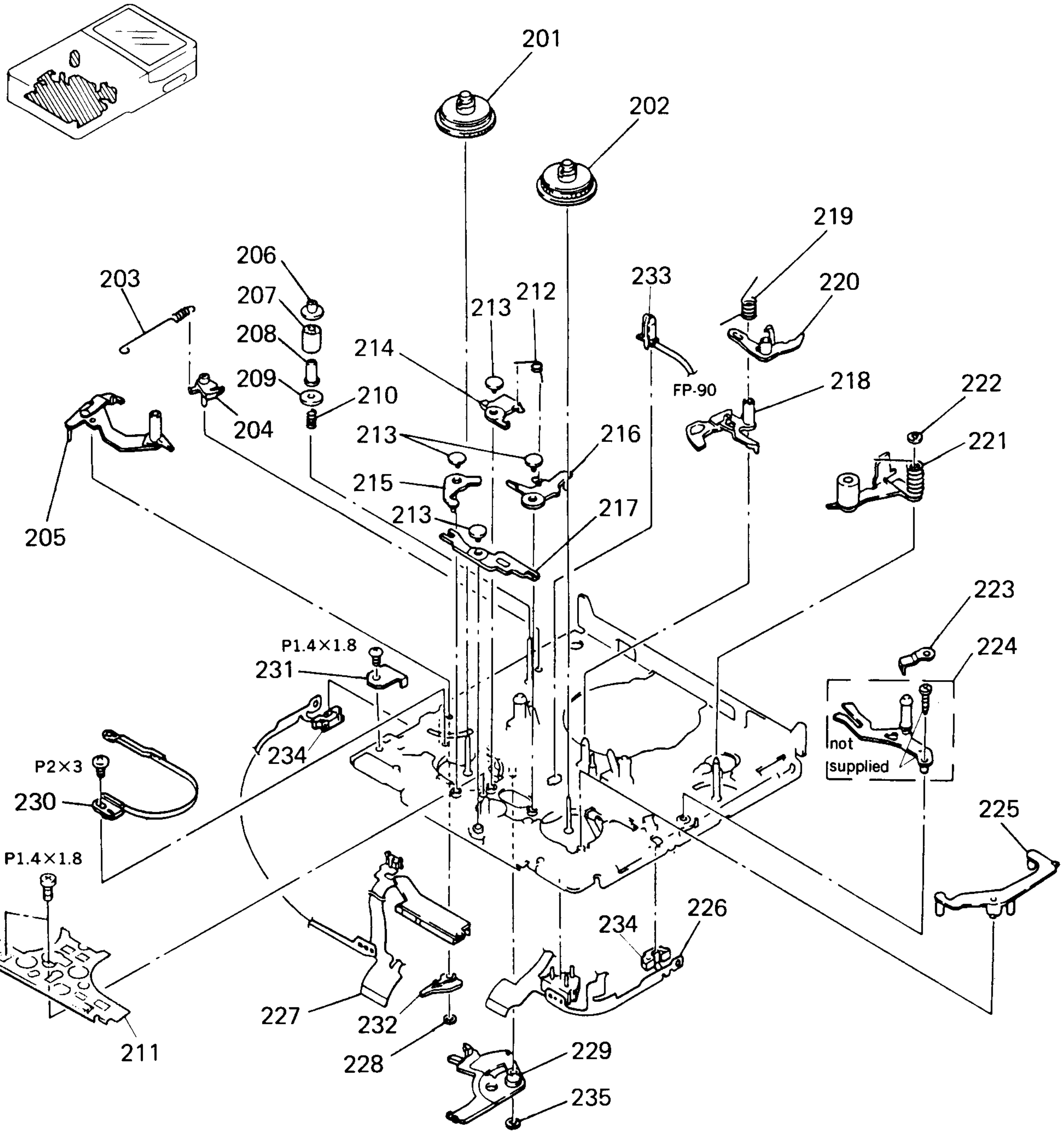
156
P2×3
P2×3
P2×6
152
P2×3
158
161
162
P1.4×1.8
P2×3
163
164
153
155
154
P2×3
P2×3
166
160

No.	Part No.	Description	Remark
151	X-3728-873-1	CASSETTE COMPARTMENT ASSY	152-155
152	3-728-825-03	SPRING, TENSION	
153	*3-728-829-01	TAPE	
154	3-728-867-02	DAMPER, OIL	
155	3-728-828-02	GEAR, DAMPER	
156	3-728-868-01	GUARD, GUIDE	
157	A-7048-432-A	DRUM ASSY (DGU-61A-R)	158, 159, 165
158	3-686-493-01	SCREW, (M2X5), P1	
159	A-7049-360-A	DRUM ASSY, ROTARY 9(UPPER) DGR-61-R)	
160	8-835-331-01	MOTOR, DC U-22A (CAPSTAN) (M902)	
161	X-3728-864-1	GROUND ASSY, SHAFT	
162	A-7040-208-A	MOTOR ASSY, THREADING (LOADING) (M903)	
163	1-808-505-12	SENSOR (DEW)	
164	A-7040-207-A	ROLLER BLOCK ASSY, HC	
165	3-727-847-01	SCREW (M2X4)	
166	*3-730-176-11	SHEET, MD	

5-5. MECHANISM DECK ASSEMBLY (2)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213
212
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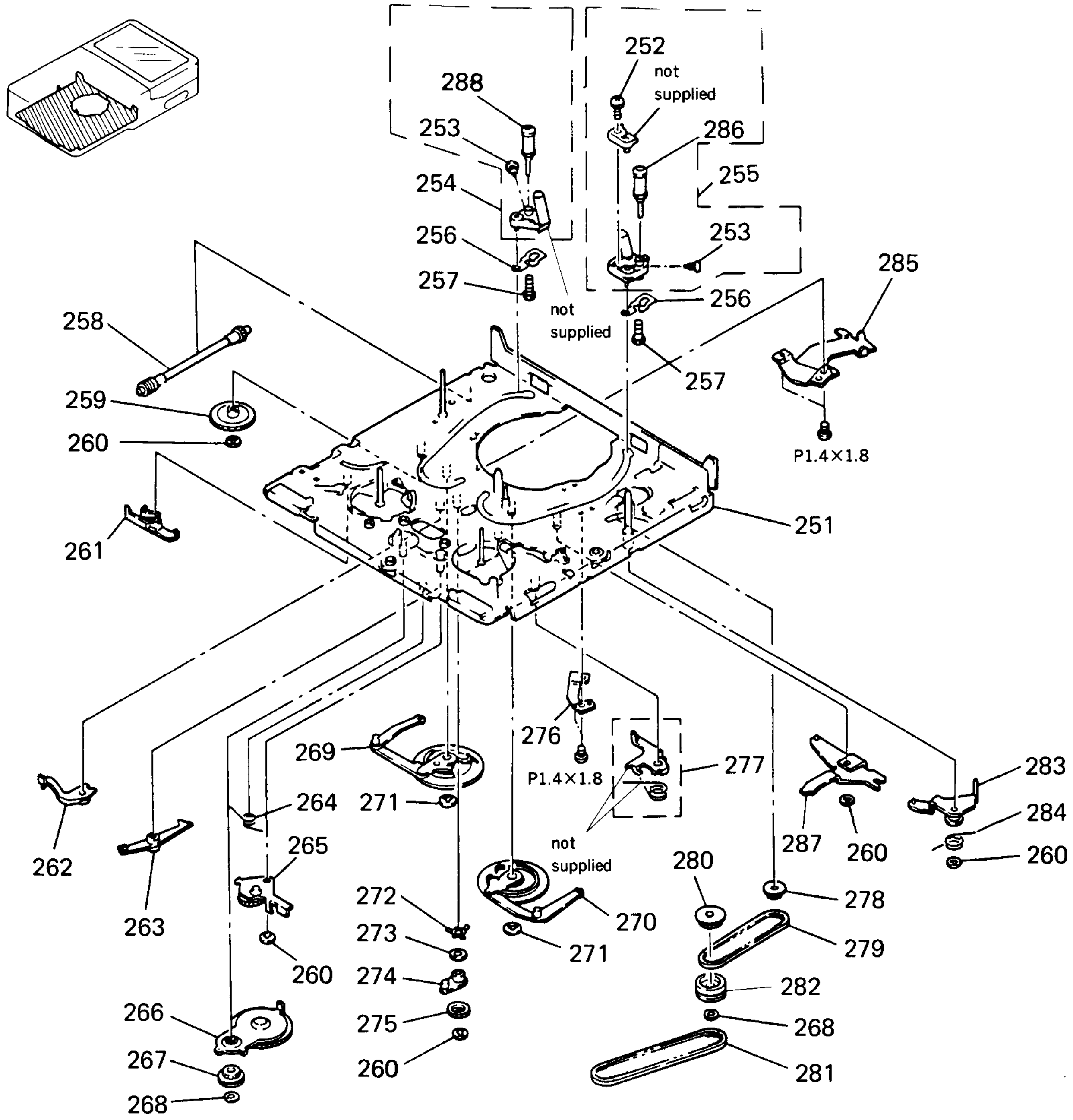
FP-90
218
222
209
210
204
213
216
221
205
215
213
217
223
P1.4×1.8
224
231
234
not supplied
P2×3
230
225
P1.4×1.8
226
234
227
232
211
228
229
235

No.	Part No.	Description	Remark
201	X-3728-851-1	TABLE ASSY, REEL, S	
202	X-3728-855-1	TABLE ASSY, REEL, T	
203	3-736-414-01	SPRING, TENSION	
204	3-728-855-03	ARM, ADJUSTMENT	
205	X-3728-867-1	ARM ASSY (S), TENSION REGULATOR	
206	3-726-884-01	FLANGE, UPPER, TG2	
207	3-726-883-01	ROLLER, TG2	
208	3-726-885-01	SLEEVE, TG2	
209	3-726-882-02	FLANGE, LOWER, TG2	
210	3-726-886-01	SPRING, COMPRESSION	
211	3-741-195-01	PLATE, BLIND, RK	
212	3-726-866-01	SPRING (ST), TORSION	
213	3-726-858-01	PIN, SHAFT RETAINER	
214	3-728-849-01	BRAKE, S	
215	3-726-852-01	BRAKE, LB	
216	3-728-850-01	BRAKE, T	
217	3-726-853-01	LEVER, LB	
218	3-728-875-01	STOPPER, RK	

No.	Part No.	Description	Remark
219	3-726-864-01	SPRING (RK), TORSION	
220	3-728-852-02	ARM, RK STOPPER	
221	A-7040-219-A	ARM BLOCK ASSY, PINCH	
222	3-669-465-00	WASHER (1.5), STOPPER	
223	3-728-808-01	SPRING, LEAF	
224	X-3728-869-1	ARM ASSY, TG7	
225	3-728-848-01	ARM, LB RELEASE	
226	1-628-061-12	FP-90 FLEXIBLE BOARD	
227	1-628-060-12	FP-89 FLEXIBLE BOARD	
228	3-321-393-11	WASHER, STOPPER	
229	X-3728-863-1	LEVER ASSY, SW	
230	X-3728-859-1	BAND ASSY, TENSION REGULATOR	
231	3-730-125-01	RETAINER, SW	
232	X-3728-857-1	STOPPER ASSY, TENSION REGULATOR	
233	3-728-837-01	HOLDER, LED	
234	3-728-869-02	HOLDER, SENSOR	
235	3-726-829-01	WASHER, STOPPER	

5-6. MECHANISM DECK ASSEMBLY (3)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286
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254
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256
285
257
256
not supplied
258
257
259
P1.4×1.8
260
251
261
276
277
269
P1.4×1.8
283
264
271
284
265
not supplied
287
260
260
262
280
278
272
270
263
279
273
271
260
274
282
266
275
268
267
260
281
268

No.	Part No.	Description	Remark
251	X-3728-862-1	CHASSIS ASSY, MECHANICAL	
252	3-736-473-01	SCREW (M2X0.25) (THREE LOCK)	
253	3-726-822-01	SCREW (M1.4X2) (STEP), HEAD	
254	A-7040-184-A	COASTER (LEFT) BLOCK ASSY-ND	253, 288
255	A-7040-217-A	COASTER (RIGHT) BLOCK ASSY (N1P)	252, 253, 286
256	3-736-485-01	SPRING, LEAF, COSTER	
257	3-726-830-01	SCREW (M1.4X4) (THREE LOCK)	
258	X-3728-868-1	WORM ASSY	
259	3-744-109-01	GEAR, WHEEL	
260	3-726-829-01	WASHER, STOPPER	
261	3-728-842-01	LEVER, EJECT	
262	3-728-851-01	BRAKE, UL	
263	3-726-854-01	ARM, BRAKE RELEASE	
264	3-726-865-01	SPRING (LB), TORSION	
265	A-7040-225-A	GEAR BLOCK ASSY (N), LB	
266	X-3728-866-1	GEAR ASSY, RK	
267	X-3728-858-1	GEAR ASSY, RC	
268	3-321-393-11	WASHER, STOPPER	
269	X-3728-842-1	GEAR (LEFT) ASSY, DRIVE	
270	X-3728-843-1	GEAR (RIGHT) ASSY, DRIVE	
271	3-669-465-00	WASHER (1.5), STOPPER	
272	3-726-867-01	SPRING, LEAF	
273	3-701-436-21	WASHER, POLYEHTHYLENE	
274	3-726-857-02	ARM, UL	
275	3-726-856-02	GEAR, UL	
276	*3-726-805-01	REINFORCEMENT (TT)	
277	X-3726-808-2	BRAKE ASSY, TS	
278	X-3726-805-1	GEAR ASSY, JOINT	
279	3-728-866-11	BELT (S), TIMING	
280	X-3726-838-1	PULLEY (UPPER) ASSY, MIDWAY	
281	3-741-197-01	BELT (L), TIMING	
282	3-741-196-01	PULLEY (LOWER), BELT MIDWAY	
283	X-3726-824-1	ARM ASSY, PINCH SUB	
284	3-726-895-01	SPRING	
285	X-3726-841-1	REINFORCEMENT (SS) ASSY	
286	X-3728-810-1	ROLLER ASSY (U)(PLATING), GUIDE	
287	X-3728-846-1	LEVER ASSY, THREADING	
288	X-3726-820-1	ROLLER ASSY (U), GUIDE	

SECTION 6
ELECTRICAL PARTS LIST

RP-105

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF: μF, PF: μμF.

RESISTORS
- All resistors are in ohms.
- F: nonflammable

COILS
- MMH: mH, UH: μH

SEMICONDUCTORS
In each case, U: μ, for example:
UA...: μA..., UPA...: μPA...,
UPC...: μPC, UPD...: μPD...

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description		Remark
	*A-7062-433-A	RP-105 BOARD, COMPLETE (Ref.No ************************		1,000 Series)
	1-634-992-11	FP-269 FLEXIBLE BOARD		
		CAPACITOR		
C501	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C502	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C503	1-135-161-21	TANTAL. CHIP 22MF	20%	10V
C504	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C505	1-135-161-21	TANTAL. CHIP 22MF	20%	10V
C506	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C507	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C508	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C509	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C510	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C511	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C512	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C513	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C514	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C515	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C516	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C517	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C518	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C519	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C520	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C522	1-135-161-21	TANTAL. CHIP 22MF	20%	10V
C523	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C524	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C525	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C529	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C531	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C533	1-135-161-21	TANTAL. CHIP 22MF	20%	10V
C534	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C535	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C581	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C582	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C583	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C584	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C585	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C586	1-162-955-11	CERAMIC CHIP 150PF	5%	50V
C587	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
		CONNECTOR		
CN501	1-565-849-11	SOCKET, CONNECTOR 11P		
CN502	1-568-740-11	CONNECTOR, FPC (1.0MM)(ZIF)18P		
CN503	1-568-340-41	CONNECTOR, BOARD TO BOARD 5P		
		IC		
IC501	8-752-033-38	IC CXA1202R		

Ref.No	Part No.	Description			Remark
		COIL			
L501	1-412-029-11	INDUCTOR CHIP	10UH		
L502	1-412-033-11	INDUCTOR CHIP	220UH		
L503	1-412-033-11	INDUCTOR CHIP	220UH		
L581	1-412-198-11	INDUCTOR	220UH		
L582	1-412-137-11	INDUCTOR	10UH		
		TRANSISTOR			
Q501	8-729-905-12	TRANSISTOR DTA144EU			
Q502	8-729-905-35	TRANSISTOR 2SC4081R			
Q581	8-729-905-23	TRANSISTOR 2SA1576R			
Q582	8-729-820-76	TRANSISTOR 2SA1179-M5M6			
		RESISTOR			
R501	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R502	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R503	1-216-838-11	METAL GLAZE	27K	5%	1/16W
R504	1-216-838-11	METAL GLAZE	27K	5%	1/16W
R505	1-216-838-11	METAL GLAZE	27K	5%	1/16W
R506	1-216-838-11	METAL GLAZE	27K	5%	1/16W
R507	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R508	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R509	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R510	1-216-838-11	METAL GLAZE	27K	5%	1/16W
R512	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R514	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R515	1-216-837-11	METAL GLAZE	22K	5%	1/16W
R516	1-216-841-11	METAL GLAZE	47K	5%	1/16W
R517	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R520	1-216-791-11	METAL GLAZE	3.3	5%	1/16W
R523	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R524	1-216-821-11	METAL GLAZE	1K	5%	1/16W
R525	1-216-809-11	METAL GLAZE	100	5%	1/16W
R526	1-216-809-11	METAL GLAZE	100	5%	1/16W
R551	1-216-820-11	METAL GLAZE	820	5%	1/16W
R552	1-216-824-11	METAL GLAZE	1.8K	5%	1/16W
R553	1-216-864-11	METAL GLAZE	0	5%	1/16W
R554	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W
R581	1-216-840-11	METAL GLAZE	39K	5%	1/16W
R582	1-216-839-11	METAL GLAZE	33K	5%	1/16W
R583	1-216-810-11	METAL GLAZE	120	5%	1/16W
R584	1-216-815-11	METAL GLAZE	330	5%	1/16W
R585	1-216-794-11	METAL GLAZE	5.6	5%	1/16W
R587	1-216-821-11	METAL GLAZE	1K	5%	1/16W
		VARIABLE RESISTOR			
RV501	1-238-092-11	RES, ADJ CERMET 47K			
RV502	1-238-092-11	RES, ADJ CERMET 47K			

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AU-98

Ref.No	Part No.	Description	Remark
	*A-7062-434-A	AU-98 BOARD, COMPLETE (Ref.No 7,000 Series) **********************	
		CAPACITOR	
C104	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C105	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C106	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C107	1-162-963-11	CERAMIC CHIP 680PF	10% 50V
C108	1-135-145-11	TANTAL. CHIP 0.47MF	20% 35V
C109	1-162-965-11	CERAMIC CHIP 0.0015MF	10% 50V
C110	1-164-173-11	CERAMIC CHIP 0.0039MF	10% 50V
C111	1-162-957-11	CERAMIC CHIP 220PF	5% 50V
C112	1-162-966-11	CERAMIC CHIP 0.0022MF	10% 50V
C113	1-126-205-11	ELECT CHIP 47MF	20% 6.3V
C114	1-164-156-11	CERAMIC CHIP 0.1MF	25V
C115	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C117	1-162-910-11	CERAMIC CHIP 5PF	0.25PF 50V
C118	1-162-968-11	CERAMIC CHIP 0.0047MF	10% 50V
C122	1-135-151-21	TANTAL. CHIP 4.7MF	20% 4V
C123	1-162-910-11	CERAMIC CHIP 5PF	0.25PF 50V
C124	1-162-587-11	CERAMIC CHIP 0.039MF	10% 25V
C125	1-162-960-11	CERAMIC CHIP 220PF	10% 50V
C126	1-162-963-11	CERAMIC CHIP 680PF	10% 50V
C127	1-164-174-11	CERAMIC CHIP 0.0082MF	10% 25V
C128	1-135-177-21	TANTAL. CHIP 1MF	20% 20V
C129	1-128-004-11	ELECT CHIP 10MF	20% 16V
C130	1-128-004-11	ELECT CHIP 10MF	20% 16V
C131	1-128-003-11	ELECT CHIP 22MF	20% 4V
C134	1-126-207-11	ELECT CHIP 33MF	20% 4V
C135	1-164-634-11	CERAMIC CHIP 1MF	16V
C136	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C137	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C138	1-164-634-11	CERAMIC CHIP 1MF	16V
C139	1-126-207-11	ELECT CHIP 33MF	20% 4V
C142	1-164-218-11	CERAMIC CHIP 180PF	0.25PF 50V
C143	1-162-966-11	CERAMIC CHIP 0.0022MF	10% 50V
C163	1-124-778-00	ELECT CHIP 22MF	20% 6.3V
C164	1-162-968-11	CERAMIC CHIP 0.0047MF	10% 50V
C165	1-162-968-11	CERAMIC CHIP 0.0047MF	10% 50V
C166	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C167	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C168	1-162-968-11	CERAMIC CHIP 0.0047MF	10% 50V
C169	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C170	1-128-003-11	ELECT CHIP 22MF	20% 4V
C171	1-128-003-11	ELECT CHIP 22MF	20% 4V
C172	1-164-156-11	CERAMIC CHIP 0.1MF	25V
C173	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C174	1-135-157-21	TANTAL. CHIP 10MF	20% 6.3V
C175	1-164-361-11	CERAMIC CHIP 0.047MF	16V
C176	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C179	1-162-927-11	CERAMIC CHIP 100PF	5% 50V
C180	1-162-928-11	CERAMIC CHIP 120PF	5% 50V
C181	1-162-965-11	CERAMIC CHIP 0.0015MF	10% 50V
C182	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C183	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C204	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C205	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C206	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C207	1-162-963-11	CERAMIC CHIP 680PF	10% 50V
C208	1-135-145-11	TANTAL. CHIP 0.47MF	20% 35V
C209	1-162-965-11	CERAMIC CHIP 0.0015MF	10% 50V
C210	1-164-173-11	CERAMIC CHIP 0.0039MF	10% 50V
C211	1-162-957-11	CERAMIC CHIP 220PF	5% 50V
C212	1-162-966-11	CERAMIC CHIP 0.0022MF	10% 50V
C213	1-126-205-11	ELECT CHIP 47MF	20% 6.3V
C214	1-164-156-11	CERAMIC CHIP 0.1MF	25V
C215	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C217	1-162-910-11	CERAMIC CHIP 5PF	0.25PF 50V
C218	1-162-968-11	CERAMIC CHIP 0.0047MF	10% 50V
C222	1-135-151-21	TANTAL. CHIP 4.7MF	20% 4V
C223	1-162-910-11	CERAMIC CHIP 5PF	0.25PF 50V
C224	1-162-587-11	CERAMIC CHIP 0.039MF	10% 25V
C225	1-162-957-11	CERAMIC CHIP 220PF	5% 50V
C226	1-162-963-11	CERAMIC CHIP 680PF	10% 50V
C227	1-164-174-11	CERAMIC CHIP 0.0082MF	10% 25V
C228	1-135-177-21	TANTAL. CHIP 1MF	20% 20V
C229	1-128-004-11	ELECT CHIP 10MF	20% 16V
C230	1-128-004-11	ELECT CHIP 10MF	20% 16V
C231	1-128-003-11	ELECT CHIP 22MF	20% 4V
C234	1-126-207-11	ELECT CHIP 33MF	20% 4V
C235	1-164-634-11	CERAMIC CHIP 1MF	16V
C236	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C237	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C238	1-164-634-11	CERAMIC CHIP 1MF	16V
C239	1-126-207-11	ELECT CHIP 33MF	20% 4V
C242	1-164-218-11	CERAMIC CHIP 180PF	0.25PF 50V
C243	1-162-966-11	CERAMIC CHIP 0.0022MF	10% 50V
C263	1-124-778-00	ELECT CHIP 22MF	20% 6.3V
C264	1-162-968-11	CERAMIC CHIP 0.0047MF	10% 50V
C265	1-162-968-11	CERAMIC CHIP 0.0047MF	10% 50V
C269	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C270	1-128-003-11	ELECT CHIP 22MF	20% 4V
C271	1-128-003-11	ELECT CHIP 22MF	20% 4V
C275	1-164-361-11	CERAMIC CHIP 0.047MF	16V
C276	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C277	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C278	1-162-919-11	CERAMIC CHIP 22PF	5% 50V
C281	1-162-965-11	CERAMIC CHIP 0.0015MF	10% 50V
C299	1-162-919-11	CERAMIC CHIP 22PF	5% 50V
C301	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C302	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C303	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C304	1-162-974-11	CERAMIC CHIP 0.01MF	50V
C305	1-162-965-11	CERAMIC CHIP 0.0015MF	10% 50V
C306	1-162-955-11	CERAMIC CHIP 150PF	5% 50V
C307	1-135-181-21	TANTAL. CHIP 4.7MF	20% 6.3V

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description		Remark
C308	1-135-156-21	TANTAL. CHIP 6.8MF	20%	10V
C309	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C310	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C315	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C316	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C317	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C318	1-135-170-21	TANTAL. CHIP 6.8MF	20%	4V
C319	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C320	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C325	1-164-634-11	CERAMIC CHIP 1MF		16V
C326	1-164-634-11	CERAMIC CHIP 1MF		16V
C401	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C402	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C403	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C404	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C405	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C406	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C407	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C408	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C411	1-128-003-11	ELECT CHIP 22MF	20%	4V
C413	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C414	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C415	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C416	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C417	1-135-162-21	TANTAL. CHIP 33MF	20%	6.3V
C418	1-124-778-00	ELECT CHIP 22MF	20%	6.3V
C420	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C421	1-126-207-11	ELECT CHIP 33MF	20%	4V
C424	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C425	1-162-966-11	CERAMIC CHIP 0.0022MF	10%	50V
C426	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C427	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C428	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C429	1-164-634-11	CERAMIC CHIP 1MF		16V
C431	1-135-161-21	TANTAL. CHIP 22MF	20%	10V
C432	1-162-638-11	CERAMIC CHIP 1MF		16V
C433	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C434	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C435	1-162-966-11	CERAMIC CHIP 0.0022MF	10%	50V
C436	1-164-156-11	CERAMIC CHIP 0.1MF		25V
C437	1-126-206-11	ELECT CHIP 100MF	20%	6.3V
C438	1-126-206-11	ELECT CHIP 100MF	20%	6.3V
C440	1-164-634-11	CERAMIC CHIP 1MF		16V
C441	1-164-634-11	CERAMIC CHIP 1MF		16V
C442	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C443	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C444	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C450	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C455	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C459	1-164-005-11	CERAMIC CHIP 0.47MF		25V

CONNECTOR

Ref.No	Part No.	Description	Remark
CN101	1-569-635-41	CONNECTOR, BOARD TO BOARD 20P	
CN102	1-569-636-41	CONNECTOR, BOARD TO BOARD 22P	

DIODE

Ref.No	Part No.	Description	Remark
D301	8-719-941-23	DIODE DA204U	
D401	8-719-941-09	DIODE DAP202U	
D402	8-719-941-86	DIODE DAN202U	

FILTER

Ref.No	Part No.	Description	Remark
FL101	1-236-831-11	FILTER, BAND PASS	
FL102	1-236-832-11	FILTER, BAND PASS	

IC

Ref.No	Part No.	Description	Remark
IC101	8-752-053-04	IC CXA1537R	
IC103	8-759-009-07	IC MC14053BF	
IC104	8-759-030-16	IC MC34182M	
IC105	8-759-009-07	IC MC14053BF	
IC106	8-759-030-16	IC MC34182M	
IC107	8-759-009-06	IC MC14052BF	
IC108	8-759-030-16	IC MC34182M	
IC109	8-759-030-16	IC MC34182M	
IC110	8-759-234-77	IC TC4S66F	
IC111	8-759-234-77	IC TC4S66F	
IC112	8-759-991-27	IC BA3570F	
IC113	8-752-334-42	IC CXD2106Q	
IC114	8-759-209-15	IC TC4SU69F	
IC115	8-759-209-15	IC TC4SU69F	
IC116	8-759-209-15	IC TC4SU69F	
IC201	8-752-053-04	IC CXA1537R	

COIL

Ref.No	Part No.	Description	Remark
L101	1-412-066-21	INDUCTOR CHIP 220UH	
L201	1-412-066-21	INDUCTOR CHIP 220UH	
L401	1-412-031-11	INDUCTOR CHIP 47UH	

TRANSISTOR

Ref.No	Part No.	Description	Remark
Q101	8-729-905-35	TRANSISTOR 2SC4081R	
Q102	8-729-905-12	TRANSISTOR DTA144EU	
Q106	8-729-905-35	TRANSISTOR 2SC4081R	
Q107	8-729-905-35	TRANSISTOR 2SC4081R	
Q108	8-729-905-35	TRANSISTOR 2SC4081R	
Q109	8-729-905-35	TRANSISTOR 2SC4081R	
Q111	8-729-905-35	TRANSISTOR 2SC4081R	
Q112	8-729-905-35	TRANSISTOR 2SC4081R	
Q201	8-729-905-35	TRANSISTOR 2SC4081R	
Q202	8-729-905-12	TRANSISTOR DTA144EU	
Q205	8-729-905-12	TRANSISTOR DTA144EU	
Q208	8-729-905-35	TRANSISTOR 2SC4081R	
Q209	8-729-905-35	TRANSISTOR 2SC4081R	
Q301	8-729-905-35	TRANSISTOR 2SC4081R	
Q302	8-729-905-35	TRANSISTOR 2SC4081R	
Q303	8-729-905-35	TRANSISTOR 2SC4081R	
Q304	8-729-905-12	TRANSISTOR DTA144EU	

When indicating parts by reference number, please include the board name.

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Ref.No	Part No.	Description	Remark
Q305	8-729-903-10	TRANSISTOR FMW1	
Q306	8-729-905-12	TRANSISTOR DTA144EU	
Q307	8-729-905-18	TRANSISTOR DTC144EU	
Q308	8-729-905-23	TRANSISTOR 2SA1576R	
Q309	8-729-905-18	TRANSISTOR DTC144EU	
Q310	8-729-905-35	TRANSISTOR 2SC4081R	
Q311	8-729-905-35	TRANSISTOR 2SC4081R	
Q313	8-729-903-10	TRANSISTOR FMW1	
Q314	8-729-905-35	TRANSISTOR 2SC4081R	
Q315	8-729-905-23	TRANSISTOR 2SA1576R	
Q316	8-729-905-18	TRANSISTOR DTC144EU	
Q317	8-729-905-18	TRANSISTOR DTC144EU	
Q318	8-729-905-18	TRANSISTOR DTC144EU	
Q319	8-729-905-35	TRANSISTOR 2SC4081R	
Q320	8-729-905-23	TRANSISTOR 2SA1576R	
Q321	8-729-905-12	TRANSISTOR DTA144EU	
Q322	8-729-905-35	TRANSISTOR 2SC4081R	
Q323	8-729-905-35	TRANSISTOR 2SC4081R	
Q401	8-729-905-35	TRANSISTOR 2SC4081R	
Q402	8-729-905-35	TRANSISTOR 2SC4081R	
Q403	8-729-905-23	TRANSISTOR 2SA1576R	
Q404	8-729-905-35	TRANSISTOR 2SC4081R	
Q405	8-729-920-XX	TRANSISTOR DTA114EU	
Q406	8-729-920-XX	TRANSISTOR DTA114EU	
Q407	8-729-905-18	TRANSISTOR DTC144EU	
Q408	8-729-905-35	TRANSISTOR 2SC4081R	
Q409	8-729-905-35	TRANSISTOR 2SC4081R	
Q410	8-729-905-18	TRANSISTOR DTC144EU	

RESISTOR

Ref.No	Part No.	Description				Remark
R101	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R105	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R106	1-216-840-11	METAL GLAZE	39K	5%	1/16W	
R107	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R108	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R110	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R111	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R112	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R113	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R114	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R115	1-216-850-11	METAL GLAZE	270K	5%	1/16W	
R116	1-216-820-11	METAL GLAZE	820	5%	1/16W	
R117	1-216-820-11	METAL GLAZE	820	5%	1/16W	
R127	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R128	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R129	1-216-840-11	METAL GLAZE	39K	5%	1/16W	
R130	1-216-851-11	METAL GLAZE	330K	5%	1/16W	
R133	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R135	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R139	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R142	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R143	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R144	1-216-834-11	METAL GLAZE	12K	5%	1/16W	

Ref.No	Part No.	Description				Remark
R145	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R146	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R147	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R148	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R149	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R150	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R151	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R152	1-216-838-11	METAL GLAZE	27K	5%	1/16W	
R153	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R154	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R155	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R157	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R158	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R159	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R160	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R161	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R162	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R163	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R164	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R165	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R166	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R167	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R168	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R169	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R170	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R171	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R172	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R173	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R174	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R175	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R176	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R177	1-216-811-11	METAL GLAZE	150	5%	1/16W	
R178	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R179	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R182	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R183	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R184	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R185	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R186	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R188	1-216-824-11	METAL GLAZE	1.8K	5%	1/16W	
R189	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R190	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R191	1-216-820-11	METAL GLAZE	820	5%	1/16W	
R192	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R193	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R198	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R199	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R201	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R205	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R206	1-216-840-11	METAL GLAZE	39K	5%	1/16W	
R207	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R210	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R211	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description				Remark
R212	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R213	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R214	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R215	1-216-850-11	METAL GLAZE	270K	5%	1/16W	
R216	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R217	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R227	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R228	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R229	1-216-840-11	METAL GLAZE	39K	5%	1/16W	
R230	1-216-851-11	METAL GLAZE	330K	5%	1/16W	
R233	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R235	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R239	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R242	1-216-813-11	METAL GLAZE	220	5%	1/16W	
R243	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R244	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R245	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R246	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R247	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R248	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R249	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R250	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R251	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R252	1-216-838-11	METAL GLAZE	27K	5%	1/16W	
R253	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R254	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R255	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R257	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R258	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R259	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R260	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R261	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R262	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R263	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R269	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R270	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R271	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R272	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R273	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R274	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R275	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R276	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R277	1-216-811-11	METAL GLAZE	150	5%	1/16W	
R278	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R279	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R280	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R281	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R284	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R293	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R298	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R301	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R302	1-216-821-11	METAL GLAZE	1K	5%	1/16W	

Ref.No	Part No.	Description				Remark
R303	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R304	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R305	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R306	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R307	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R308	1-216-853-11	METAL GLAZE	470K	5%	1/16W	
R309	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R310	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R311	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R312	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R313	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R314	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R315	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R316	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R318	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R319	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R323	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R324	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R325	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R327	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R328	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R329	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R330	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R331	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R332	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R333	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R334	1-216-838-11	METAL GLAZE	27K	5%	1/16W	
R335	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R336	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R337	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R338	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R339	1-216-810-11	METAL GLAZE	120	5%	1/16W	
R340	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R341	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R360	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R401	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R402	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R403	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R404	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R405	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R407	1-216-849-11	METAL GLAZE	220K	5%	1/16W	
R408	1-216-847-11	METAL GLAZE	150K	5%	1/16W	
R409	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R410	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R411	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R412	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R413	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R414	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R415	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R421	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R422	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R423	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R424	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description				Remark
R425	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R426	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R427	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R428	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R429	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R430	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R431	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R432	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R433	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R434	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R435	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R436	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R437	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R438	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R440	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R441	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R442	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R443	1-216-823-11	METAL GLAZE	1.5K	5%	1/16W	
R444	1-216-816-11	METAL GLAZE	390	5%	1/16W	
R445	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R446	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R447	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R450	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R451	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R453	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R456	1-216-804-11	METAL GLAZE	39	5%	1/16W	
R457	1-216-804-11	METAL GLAZE	39	5%	1/16W	
R458	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R459	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R460	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R461	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R462	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R463	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	

VARIABLE RESISTOR

Ref.No	Part No.	Description	Remark
RV101	1-238-091-11	RES, ADJ CERMET 22K	
RV102	1-238-090-11	RES, ADJ CERMET 10K	
RV103	1-238-090-11	RES, ADJ CERMET 10K	
RV201	1-238-092-11	RES, ADJ CERMET 47K	
RV202	1-238-090-11	RES, ADJ CERMET 10K	
RV203	1-238-091-11	RES, ADJ CERMET 22K	
RV204	1-238-089-11	RES, ADJ CERMET 4.7K	
RV301	1-238-086-11	RES, ADJ CERMET 470	
RV401	1-238-093-11	RES, ADJ CERMET 100K	
RV402	1-238-093-11	RES, ADJ CERMET 100K	

CRYSTAL

Ref.No	Part No.	Description	Remark
X101	1-579-050-11	VIBRATOR, CRYSTAL	

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Ref.No	Part No.	Description			Remark
	*A-7062-435-A	SV-66 BOARD, COMPLETE (Ref.No 5,000 Series) ********************** (Including the CC-55 board)			
	1-634-993-11	FP-270 FLEXIBLE BOARD			
	*3-746-902-01	CASE (LID), SHIELD, SDD			

CAPACITOR

Ref.No	Part No.	Description			Remark
C101	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C102	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C103	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C104	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C105	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C106	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C107	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C108	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C109	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C110	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C111	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C112	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C113	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C114	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C115	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C116	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C117	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C118	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C119	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C120	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C121	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C122	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V
C123	1-162-974-11	CERAMIC CHIP	0.01MF		50V
C124	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C125	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C126	1-135-159-21	TANTAL.CHIP	10MF	20%	20V
C127	1-126-206-11	ELECT CHIP	100MF	20%	6.3V
C128	1-164-633-11	CERAMIC CHIP	0.1MF	10%	25V
C131	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C132	1-164-360-11	CERAMIC CHIP	0.1MF		16V
C134	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C135	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V
C136	1-164-360-11	CERAMIC CHIP	0.1MF		16V
C138	1-164-360-11	CERAMIC CHIP	0.1MF		16V
C139	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C140	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C141	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C142	1-164-633-11	CERAMIC CHIP	0.1MF	10%	25V
C143	1-164-633-11	CERAMIC CHIP	0.1MF	10%	25V
C144	1-162-970-11	CERAMIC CHIP	0.01MF	10%	25V
C145	1-162-970-11	CERAMIC CHIP	0.01MF	10%	25V
C146	1-164-634-11	CERAMIC CHIP	1MF		16V
C201	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V
C202	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V
C203	1-135-157-21	TANTAL. CHIP	10MF	20%	6.3V

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Ref.No	Part No.	Description		Remark
C204	1-164-634-11	CERAMIC CHIP 1MF		16V
C206	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C208	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C209	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C210	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C211	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C212	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C213	1-162-969-11	CERAMIC CHIP 0.0068MF	10%	25V
C214	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C215	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C216	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C217	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C218	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C219	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C220	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C221	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C222	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C223	1-164-634-11	CERAMIC CHIP 1MF		16V
C224	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C226	1-162-917-11	CERAMIC CHIP 15PF	5%	50V
C228	1-162-917-11	CERAMIC CHIP 15PF	5%	50V
C229	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C230	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C231	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C232	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C233	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C234	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C235	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C236	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C237	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C238	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C239	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C240	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C241	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C242	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C243	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C244	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C245	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C246	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C247	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C248	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C249	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C250	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C251	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C252	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C253	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C254	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C255	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C256	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C257	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C258	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C259	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C260	1-162-945-11	CERAMIC CHIP 22PF	5%	50V

Ref.No	Part No.	Description		Remark
C261	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C262	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C263	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C265	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C266	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C267	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C268	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C269	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C270	1-164-634-11	CERAMIC CHIP 1MF		16V
C271	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C272	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C273	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C302	1-162-966-11	CERAMIC CHIP 0.0022MF	10%	50V
C305	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C308	1-162-956-11	CERAMIC CHIP 180PF	5%	50V
C309	1-162-947-11	CERAMIC CHIP 33PF	5%	50V
C310	1-162-963-11	CERAMIC CHIP 680PF	10%	50V
C311	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C312	1-162-962-11	CERAMIC CHIP 470PF	10%	50V
C313	1-135-149-21	TANTAL. CHIP 2.2MF	20%	10V
C315	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C317	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C319	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C320	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C321	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C401	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C402	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C403	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C404	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C405	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C406	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C407	1-163-123-00	CERAMIC CHIP 180PF	5%	50V
C408	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C409	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C410	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C411	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C412	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C413	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C414	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C415	1-162-960-11	CERAMIC CHIP 220PF	10%	50V
C416	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C417	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C418	1-162-916-11	CERAMIC CHIP 12PF	5%	50V
C419	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C420	1-127-491-00	ELECT(SOLID) 22MF	20%	10V
C421	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C422	1-162-915-11	CERAMIC CHIP 10PF	0.5PF	50V
C423	1-162-919-11	CERAMIC CHIP 22PF	5%	50V
C424	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C425	1-162-919-11	CERAMIC CHIP 22PF	5%	50V
C426	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C427	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C428	1-127-489-11	ELECT(SOLID) 10MF	20%	10V

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Ref.No	Part No.	Description		Remark
C429	1-135-216-11	TANTAL. CHIP 10MF	20%	10V
C430	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C431	1-127-489-11	ELECT(SOLID) 10MF	20%	10V
C432	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C433	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C434	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C435	1-135-159-21	TANTAL. CHIP 10MF	20%	20V
C436	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C437	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C438	1-136-718-11	TANTAL. CHIP 0.1MF	5%	25V
C439	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C440	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C441	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C442	1-164-634-11	CERAMIC CHIP 1MF		16V
C443	1-135-159-21	TANTAL. CHIP 10MF	20%	20V
C444	1-162-967-11	CERAMIC CHIP 0.0033MF	10%	50V
C445	1-162-970-11	CERAMIC CHIP 0.01MF	10%	25V
C446	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C447	1-162-967-11	CERAMIC CHIP 0.0033MF	10%	50V
C448	1-164-330-21	CERAMIC CHIP 0.22MF	10%	16V
C449	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C450	1-162-967-11	CERAMIC CHIP 0.0033MF	10%	50V
C451	1-164-633-11	CERAMIC CHIP 0.1MF	10%	25V
C453	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C454	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C455	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C456	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C457	1-135-149-21	TANTAL. CHIP 2.2MF	20%	10V
C458	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C460	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C461	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C601	1-124-778-00	ELECT CHIP 22MF	20%	6.3V
C602	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C603	1-128-004-11	ELECT CHIP 10MF	20%	16V
C604	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C605	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C607	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C608	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C609	1-162-959-11	CERAMIC CHIP 330PF	5%	50V
C610	1-162-957-11	CERAMIC CHIP 220PF	5%	50V
C611	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C612	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C613	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C614	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C615	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C616	1-128-004-11	ELECT CHIP 10MF	20%	16V
C617	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C618	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C619	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C620	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C621	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C622	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C623	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C624	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C625	1-135-177-21	TANTAL. CHIP 1MF	20%	20V
C626	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C627	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C628	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C629	1-135-177-21	TANTAL. CHIP 1MF	20%	20V
C630	1-126-607-11	ELECT CHIP 47MF	20%	4V
C631	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C632	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C633	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C634	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C635	1-162-955-11	CERAMIC CHIP 150PF	5%	50V
C636	1-126-607-11	ELECT CHIP 47MF	20%	4V
C637	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C638	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C639	1-162-959-11	CERAMIC CHIP 330PF	5%	50V
C640	1-164-145-11	CERAMIC CHIP 390PF	5%	50V
C641	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C642	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C643	1-126-607-11	ELECT CHIP 47MF	20%	4V
C644	1-163-135-00	CERAMIC CHIP 560PF	5%	50V
C645	1-162-950-11	CERAMIC CHIP 56PF	5%	50V
C646	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C647	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C648	1-162-944-11	CERAMIC CHIP 18PF	5%	50V
C651	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C652	1-162-950-11	CERAMIC CHIP 56PF	5%	50V
C653	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C654	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C655	1-162-952-11	CERAMIC CHIP 82PF	5%	50V
C656	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C657	1-126-607-11	ELECT CHIP 47MF	20%	4V
C658	1-162-957-11	CERAMIC CHIP 220PF	5%	50V
C659	1-162-959-11	CERAMIC CHIP 330PF	5%	50V
C660	1-162-950-11	CERAMIC CHIP 56PF	5%	50V
C661	1-135-201-11	TANTAL. CHIP 10MF	20%	4V
C662	1-162-944-11	CERAMIC CHIP 18PF	5%	50V
C663	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C664	1-126-607-11	ELECT CHIP 47MF	20%	4V
C665	1-128-004-11	ELECT CHIP 10MF	20%	16V
C666	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C667	1-162-943-11	CERAMIC CHIP 15PF	5%	50V
C701	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C702	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C703	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C704	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C705	1-128-004-11	ELECT CHIP 10MF	20%	16V
C706	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C707	1-126-607-11	ELECT CHIP 47MF	20%	4V
C710	1-162-969-11	CERAMIC CHIP 0.0068MF	10%	25V
C711	1-135-177-21	TANTAL. CHIP 1MF	20%	20V
C712	1-135-177-21	TANTAL. CHIP 1MF	20%	20V
C713	**1-135-210-11**	**TANTAL. CHIP 4.7MF**	**20%**	**10V**

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Ref.No	Part No.	Description		Remark
C714	1-135-146-21	TANTAL. CHIP 0.68MF	20%	25V
C715	1-162-995-11	CERAMIC CHIP 0.022MF		50V
C716	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C717	1-162-915-11	CERAMIC CHIP 10PF	0.5PF	50V
C718	1-162-936-11	CERAMIC CHIP 5PF	0.25PF	50V
C719	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C720	1-162-949-11	CERAMIC CHIP 47PF	5%	50V
C721	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C722	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C723	1-162-967-11	CERAMIC CHIP 0.0033MF	10%	50V
C724	1-162-952-11	CERAMIC CHIP 82PF	5%	50V
C725	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C726	1-162-949-11	CERAMIC CHIP 47PF	5%	50V
C727	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C728	1-162-957-11	CERAMIC CHIP 220PF	5%	50V
C729	1-162-950-11	CERAMIC CHIP 56PF	5%	50V
C730	1-162-951-11	CERAMIC CHIP 68PF	5%	50V
C731	1-162-954-11	CERAMIC CHIP 120PF	5%	50V
C732	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C733	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C734	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C735	1-162-955-11	CERAMIC CHIP 150PF	5%	50V
C741	1-128-004-11	ELECT CHIP 10MF	20%	16V
C742	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C743	1-163-118-00	CERAMIC CHIP 110PF	5%	50V
C744	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C745	1-135-149-21	TANTAL. CHIP 2.2MF	20%	10V
C746	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C748	1-135-210-11	TANTAL. CHIP 4.7MF	20%	10V
C749	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C750	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C751	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C752	1-135-177-21	TANTAL. CHIP 1MF	20%	20V
C753	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C754	1-162-941-11	CERAMIC CHIP 10PF	0.5PF	50V
C755	1-162-953-11	CERAMIC CHIP 100PF	5%	50V
C756	1-162-936-11	CERAMIC CHIP 5PF	0.25PF	50V
C757	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C758	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C759	1-162-921-11	CERAMIC CHIP 33PF	5%	50V
C760	1-162-923-11	CERAMIC CHIP 47PF	5%	50V
C761	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C771	1-135-217-21	TANTAL. CHIP 15MF	20%	6.3V
C772	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C773	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C774	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C775	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C776	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C777	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C778	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C779	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C780	1-135-177-21	TANTAL. CHIP 1MF	20%	20V
C781	1-126-246-11	ELECT CHIP 220MF	20%	4V
C788	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C789	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C790	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C791	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C792	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C793	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C794	1-124-778-00	ELECT CHIP 22MF	20%	6.3V
C798	1-135-149-21	TANTAL. CHIP 2.2MF	20%	10V
C799	1-135-146-21	TANTAL. CHIP 0.68MF	20%	25V
C801	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C804	1-162-965-11	CERAMIC CHIP 0.0015MF	10%	50V
C805	1-162-958-11	CERAMIC CHIP 270PF	5%	50V
C806	1-162-943-11	CERAMIC CHIP 15PF	5%	50V
C807	1-162-949-11	CERAMIC CHIP 47PF	5%	50V
C809	1-162-945-11	CERAMIC CHIP 22PF	5%	50V
C813	1-162-995-11	CERAMIC CHIP 0.022MF		50V
C826	1-164-634-11	CERAMIC CHIP 1MF		16V
C827	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C828	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C829	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C831	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C832	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C833	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C836	1-162-943-11	CERAMIC CHIP 15PF	5%	50V
C837	1-162-995-11	CERAMIC CHIP 0.022MF		50V
C838	1-162-948-11	CERAMIC CHIP 39PF	5%	50V
C839	1-162-943-11	CERAMIC CHIP 15PF	5%	50V
C840	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C841	1-162-995-11	CERAMIC CHIP 0.022MF		50V
C842	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C843	1-162-995-11	CERAMIC CHIP 0.022MF		50V
C844	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C845	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C846	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C847	1-162-942-11	CERAMIC CHIP 12PF	5%	50V
C850	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C851	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C852	1-163-116-00	CERAMIC CHIP 91PF	5%	50V
C854	1-163-104-00	CERAMIC CHIP 30PF	5%	50V
C855	1-162-951-11	CERAMIC CHIP 68PF	5%	50V
C856	1-162-955-11	CERAMIC CHIP 150PF	5%	50V
C859	1-162-954-11	CERAMIC CHIP 120PF	5%	50V
C901	1-164-361-11	CERAMIC CHIP 0.047MF		16V
C902	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C903	1-162-964-11	CERAMIC CHIP 0.001MF	10%	50V
C905	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C906	1-135-156-21	TANTAL. CHIP 6.8MF	20%	10V
C907	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C908	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C909	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C911	1-164-634-11	CERAMIC CHIP 1MF		16V
C912	1-164-634-11	CERAMIC CHIP 1MF		16V
C913	1-164-634-11	CERAMIC CHIP 1MF		16V
C999	**1-161-772-11**	**CERAMIC 0.1MF**	**10%**	**25V**

When indicating parts by reference number, please include the board name.

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Ref.No	Part No.	Description	Remark
		FILTER	
CF701	1-577-162-11	FILTER, CERAMIC (5.17MHz)	
		CONNECTOR	
CN001	1-566-531-11	CONNECTOR, FPC (ZIF) 15P	
CN002	1-569-030-11	CONNECTOR, FPC (ZIF) 21P	
CN003	1-569-481-11	CONNECTOR, FPC 30P	
CN004	1-569-633-61	CONNECTOR, BOARD TO BOARD 26P	
CN005	1-569-631-41	CONNECTOR, BOARD TO BOARD 20P	
CN006	1-569-632-41	CONNECTOR, BOARD TO BOARD 22P	
CN007	1-566-532-11	CONNECTOR, FPC (ZIF) 16P	
CN008	1-569-363-21	CONNECTOR, FPC 15P	
CN009	1-566-531-11	CONNECTOR, FPC (ZIF) 15P	
CN601	*1-566-091-11	PIN, BOARD TO BOARD 6P	
CN701	1-566-528-21	CONNECTOR, FPC (ZIF) 12P	
CN801	1-566-534-21	CONNECTOR, FPC (ZIF) 18P	
		TRIMMER	
CV101	1-141-424-11	CAP, ADJ 30P	
		DIODE	
D101	8-719-938-72	DIODE SB01-05CP	
D103	8-719-105-52	DIODE RD3.6M-B2	
D104	8-719-105-XX	DIODE RD6.2M-B1	
D107	8-719-941-09	DIODE DAP202U	
D108	8-719-404-40	DIODE MA121	
D201	8-719-941-86	DIODE DAN202U	
D202	8-719-404-40	DIODE MA121	
D203	8-719-404-40	DIODE MA121	
D204	8-719-941-09	DIODE DAP202U	
D205	8-719-941-09	DIODE DAP202U	
D206	8-719-941-09	DIODE DAP202U	
D301	8-719-941-86	DIODE DAN202U	
D401	8-719-938-78	DIODE SB10-05PCP	
D402	8-719-941-09	DIODE DAP202U	
D403	8-719-938-75	DIODE SB05-05CP	
D404	8-719-938-75	DIODE SB05-05CP	
D601	8-719-404-40	DIODE MA121	
D701	8-719-941-86	DIODE DAN202U	
D702	8-719-941-86	DIODE DAN202U	
D741	8-719-941-86	DIODE DAN202U	
D742	8-719-941-86	DIODE DAN202U	
D771	8-719-404-40	DIODE MA121	
D802	8-719-800-76	DIODE 1SS226	
D901	8-719-106-44	DIODE RD9.1M-B2	
D902	8-719-106-44	DIODE RD9.1M-B2	
		FERRITE BEAD	
FB101	1-543-256-11	BEAD, FERRITE	
FB102	1-412-390-21	INDUCTOR CHIP OUH	
FB201	1-543-256-11	BEAD, FERRITE	
FB202	1-543-256-11	BEAD, FERRITE	
FB203	1-412-390-21	INDUCTOR CHIP OUH	
FB204	1-412-390-21	INDUCTOR CHIP OUH	
FB205	1-543-256-11	BEAD, FERRITE	
		FILTER	
FL651	1-236-848-21	FILTER, LOW PASS	
FL652	1-236-847-21	FILTER, LOW PASS	
FL653	1-236-751-21	FILTER, LOW PASS	
FL654	1-415-764-21	DELAY LINE, LC	
FL701	1-236-849-21	FILTER, BAND PASS	
FL702	1-236-186-11	FILTER, BAND PASS	
FL741	1-236-850-21	FILTER, BAND PASS	
FL801	1-409-475-21	FILTER, TRAP	
		IC	
IC101	8-752-815-30	IC CXP50116-093Q	
IC102	8-759-502-36	IC S-81350HG	
IC103	8-759-940-33	IC S-8052ALO-LG-S	
IC104	8-759-946-03	IC S-8054ALR-LN-S	
IC105	8-759-720-23	IC AK93C57F	
IC106	8-759-009-22	IC MC14094BF	
IC107	8-759-209-15	IC TC4SU69F	
IC108	8-759-209-97	IC TC4S81F	
IC109	8-759-209-97	IC TC4S81F	
IC201	8-759-234-77	IC TC4S66F	
IC202	8-759-234-77	IC TC4S66F	
IC204	8-759-999-11	IC LM358D	
IC206	8-752-815-31	IC CXP80116-805Q	
IC301	1-809-200-11	ATF-HIC (PAL)	
IC302	8-759-100-97	IC UPC339G2	
IC401	⚠8-759-945-17	IC MB3775PF	
IC402	⚠8-759-998-94	IC LM311D	
IC403	8-759-990-55	IC CXA8006M	
IC404	8-759-805-06	IC CXA1127M	
IC405	8-759-107-68	IC CX20115A	
IC601	8-752-036-19	IC CXA1207	
IC651	8-759-710-86	IC NJM2233BM	
IC701	8-752-036-20	IC CXA1208R	
IC741	8-759-605-61	IC CXA1203N	
IC771	8-752-033-40	IC CXA1201Q	
IC802	8-759-012-00	IC MC10H116M	
IC901	8-759-701-02	IC NJM2073M	
		JACK	
J101	1-563-282-11	JACK, SMALL TYPE	
J701	1-569-639-11	JACK, PIN 3P	
		COIL	
L102	1-410-993-11	INDUCTOR CHIP 1UH	
L103	1-410-993-11	INDUCTOR CHIP 1UH	
L104	1-410-993-11	INDUCTOR CHIP 1UH	
L105	1-410-993-11	INDUCTOR CHIP 1UH	
L106	1-410-993-11	INDUCTOR CHIP 1UH	

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Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
L107	1-410-993-11	INDUCTOR CHIP 1UH	
L201	1-408-789-21	INDUCTOR CHIP 100UH	
L203	1-410-993-11	INDUCTOR CHIP 1UH	
L204	1-410-993-11	INDUCTOR CHIP 1UH	
L205	1-410-993-11	INDUCTOR CHIP 1UH	
L206	1-410-993-11	INDUCTOR CHIP 1UH	
L207	1-410-993-11	INDUCTOR CHIP 1UH	
L208	1-410-993-11	INDUCTOR CHIP 1UH	
L209	1-410-993-11	INDUCTOR CHIP 1UH	
L210	1-410-993-11	INDUCTOR CHIP 1UH	
L211	1-410-993-11	INDUCTOR CHIP 1UH	
L401	1-424-104-11	COIL, CHOKE 10UH	
L402	1-410-337-11	INDUCTOR 1UH	
L403	1-424-104-11	COIL, CHOKE 10UH	
L404	1-424-104-11	COIL, CHOKE 10UH	
L405	1-424-106-11	COIL, CHOKE 47UH	
L406	1-424-104-11	COIL, CHOKE 10UH	
L407	1-424-106-11	COIL, CHOKE 47UH	
L408	1-424-105-11	COIL, CHOKE 22UH	
L409	1-408-789-21	INDUCTOR CHIP 100UH	
L601	1-412-029-11	INDUCTOR CHIP 10UH	
L602	1-412-032-11	INDUCTOR CHIP 100UH	
L603	1-410-379-31	INDUCTOR CHIP 6.8UH	
L604	1-410-390-11	INDUCTOR CHIP 56UH	
L605	1-410-391-11	INDUCTOR CHIP 68UH	
L651	1-410-388-21	INDUCTOR CHIP 39UH	
L652	1-410-390-11	INDUCTOR CHIP 56UH	
L653	1-410-391-11	INDUCTOR CHIP 68UH	
L654	1-410-392-11	INDUCTOR CHIP 82UH	
L702	1-410-386-11	INDUCTOR CHIP 27UH	
L703	1-410-393-11	INDUCTOR CHIP 100UH	
L704	1-410-379-31	INDUCTOR CHIP 6.8UH	
L705	1-410-393-11	INDUCTOR CHIP 100UH	
L706	1-410-656-11	INDUCTOR CHIP 150UH	
L707	1-410-655-31	INDUCTOR CHIP 120UH	
L708	1-410-393-11	INDUCTOR CHIP 100UH	
L709	1-412-031-11	INDUCTOR CHIP 47UH	
L741	1-412-031-11	INDUCTOR CHIP 47UH	
L771	1-412-029-11	INDUCTOR CHIP 10UH	
L772	1-412-032-11	INDUCTOR CHIP 100UH	
L773	1-412-032-11	INDUCTOR CHIP 100UH	
L801	1-410-167-41	INDUCTOR CHIP 820UH	
L802	1-410-657-21	INDUCTOR CHIP 180UH	
L803	1-412-032-11	INDUCTOR CHIP 100UH	
L804	1-412-032-11	INDUCTOR CHIP 100UH	
L808	1-410-386-11	INDUCTOR CHIP 27UH	
L809	1-410-381-11	INDUCTOR CHIP 10UH	
L810	1-410-386-11	INDUCTOR CHIP 27UH	
L811	1-410-380-31	INDUCTOR CHIP 8.2UH	
L813	1-410-386-11	INDUCTOR CHIP 27UH	
L817	1-410-658-31	INDUCTOR CHIP 220UH	
L818	1-410-656-11	INDUCTOR CHIP 150UH	
L819	1-412-280-31	INDUCTOR 330UH	

Ref.No	Part No.	Description	Remark
L901	1-412-032-11	INDUCTOR CHIP 100UH	
L902	1-412-031-11	INDUCTOR CHIP 47UH	

IC LINK

Ref.No	Part No.	Description	Remark
PS101	⚠.1-532-605-00	LINK, IC	
PS201	⚠.1-532-605-00	LINK, IC	

TRANSISTOR

Ref.No	Part No.	Description	Remark
Q101	8-729-905-18	TRANSISTOR DTC144EU	
Q102	8-729-905-35	TRANSISTOR 2SC4081R	
Q103	8-729-220-93	TRANSISTOR 2SK209G	
Q104	8-729-905-18	TRANSISTOR DTC144EU	
Q105	8-729-905-35	TRANSISTOR 2SC4081R	
Q106	8-729-905-23	TRANSISTOR 2SA1576R	
Q107	8-729-220-93	TRANSISTOR 2SK209G	
Q108	8-729-220-93	TRANSISTOR 2SK209G	
Q109	8-729-905-12	TRANSISTOR DTA144EU	
Q110	8-729-905-35	TRANSISTOR 2SC4081R	
Q111	8-729-905-26	TRANSISTOR 2SA1576Q	
Q112	8-729-905-26	TRANSISTOR 2SA1576Q	
Q113	8-729-921-08	TRANSISTOR DTC144TU	
Q114	8-729-403-24	TRANSISTOR XN4210	
Q116	8-729-403-24	TRANSISTOR XN4210	
Q117	8-729-905-18	TRANSISTOR DTC144EU	
Q118	8-729-920-59	TRANSISTOR IMX2	
Q120	8-729-905-35	TRANSISTOR 2SC4081R	
Q201	8-729-905-35	TRANSISTOR 2SC4081R	
Q202	8-729-905-35	TRANSISTOR 2SC4081R	
Q203	8-729-921-08	TRANSISTOR DTC144TU	
Q204	8-729-902-96	TRANSISTOR FMS1	
Q205	8-729-903-82	TRANSISTOR FMW2	
Q206	8-729-907-00	TRANSISTOR DTC114EU	
Q207	8-729-905-35	TRANSISTOR 2SC4081	
Q208	8-729-820-46	TRANSISTOR 2SB1202FAS	
Q209	8-729-905-35	TRANSISTOR 2SC4081R	
Q210	8-729-403-24	TRANSISTOR XN4210	
Q212	8-729-905-12	TRANSISTOR DTA144EU	
Q213	8-729-905-18	TRANSISTOR DTC144EU	
Q214	8-729-905-18	TRANSISTOR DTC144EU	
Q215	8-729-905-18	TRANSISTOR DTC144EU	
Q216	8-729-905-35	TRANSISTOR 2SC4081R	
Q301	8-729-905-23	TRANSISTOR 2SA1576R	
Q302	8-729-905-35	TRANSISTOR 2SC4081R	
Q303	8-729-905-23	TRANSISTOR 2SA1576R	
Q304	8-729-905-35	TRANSISTOR 2SC4081R	
Q305	8-729-905-18	TRANSISTOR DTC144EU	
Q306	8-729-905-18	TRANSISTOR DTC144EU	
Q307	8-729-920-48	TRANSISTOR IMH2	
Q401	8-729-905-35	TRANSISTOR 2SC4081R	
Q402	8-729-901-04	TRANSISTOR DTA114EK	
Q403	8-729-905-35	TRANSISTOR 2SC4081R	
Q404	⚠8-729-805-25	TRANSISTOR 2SB1121	
Q405	8-729-905-35	TRANSISTOR 2SC4081R	

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Ref.No	Part No.	Description	Remark
Q406	8-729-905-61	TRANSISTOR DTC124EU	
Q407	8-729-905-35	TRANSISTOR 2SC4081R	
Q408	⚠8-729-805-25	TRANSISTOR 2SB1121	
Q409	⚠8-729-805-25	TRANSISTOR 2SB1121	
Q410	8-729-805-25	TRANSISTOR 2SB1121	
Q411	8-729-805-25	TRANSISTOR 2SB1121	
Q412	8-729-905-35	TRANSISTOR 2SC4081R	
Q413	8-729-907-00	TRANSISTOR DTC114EU	
Q415	8-729-905-18	TRANSISTOR DTC144EU	
Q416	8-729-905-12	TRANSISTOR DTA144EU	
Q418	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q419	8-729-907-00	TRANSISTOR DTC114EU	
Q420	8-729-907-00	TRANSISTOR DTC114EU	
Q601	8-729-905-12	TRANSISTOR DTA144EU	
Q602	8-729-905-35	TRANSISTOR 2SC4081R	
Q603	8-729-905-35	TRANSISTOR 2SC4081R	
Q604	8-729-905-35	TRANSISTOR 2SC4081R	
Q605	8-729-905-23	TRANSISTOR 2SA1576R	
Q609	8-729-905-18	TRANSISTOR DTC144EU	
Q651	8-729-905-23	TRANSISTOR 2SA1576R	
Q652	8-729-905-35	TRANSISTOR 2SC4081R	
Q653	8-729-905-35	TRANSISTOR 2SC4081R	
Q654	8-729-905-23	TRANSISTOR 2SA1576R	
Q655	8-729-905-35	TRANSISTOR 2SC4081R	
Q656	8-729-905-35	TRANSISTOR 2SC4081R	
Q657	8-729-905-23	TRANSISTOR 2SA1576R	
Q658	8-729-905-35	TRANSISTOR 2SC4081R	
Q659	8-729-905-35	TRANSISTOR 2SC4081R	
Q660	8-729-905-23	TRANSISTOR 2SA1576R	
Q661	8-729-905-12	TRANSISTOR DTA144EU	
Q662	8-729-905-18	TRANSISTOR DTC144EU	
Q663	8-729-920-48	TRANSISTOR IMH2	
Q665	8-729-905-35	TRANSISTOR 2SC4081R	
Q701	8-729-905-35	TRANSISTOR 2SC4081R	
Q702	8-729-905-18	TRANSISTOR DTC144EU	
Q703	8-729-905-35	TRANSISTOR 2SC4081R	
Q704	8-729-905-18	TRANSISTOR DTC144EU	
Q705	8-729-905-35	TRANSISTOR 2SC4081R	
Q706	8-729-905-23	TRANSISTOR 2SA1576R	
Q707	8-729-905-35	TRANSISTOR 2SC4081R	
Q709	8-729-905-18	TRANSISTOR DTC144EU	
Q741	8-729-905-18	TRANSISTOR DTC144EU	
Q743	8-729-905-12	TRANSISTOR DTA144EU	
Q744	8-729-907-39	TRANSISTOR IMD2	
Q745	8-729-920-48	TRANSISTOR IMH2	
Q746	8-729-905-35	TRANSISTOR 2SC4081R	
Q747	8-729-905-35	TRANSISTOR 2SC4081R	
Q748	8-729-905-18	TRANSISTOR DTC144EU	
Q749	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q750	8-729-905-35	TRANSISTOR 2SC4081R	
Q751	8-729-905-35	TRANSISTOR 2SC4081R	

Ref.No	Part No.	Description	Remark
Q771	8-729-907-00	TRANSISTOR DTC114EU	
Q772	8-729-905-12	TRANSISTOR DTA144EU	
Q773	8-729-905-18	TRANSISTOR DTC144EU	
Q774	8-729-905-18	TRANSISTOR DTC144EU	
Q775	8-729-905-35	TRANSISTOR 2SC4081R	
Q777	8-729-905-23	TRANSISTOR 2SA1576R	
Q778	8-729-905-18	TRANSISTOR DTC144EU	
Q779	8-729-905-35	TRANSISTOR 2SC4081R	
Q780	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q804	8-729-905-35	TRANSISTOR 2SC4081R	
Q806	8-729-905-12	TRANSISTOR DTA144EU	
Q808	8-729-905-35	TRANSISTOR 2SC4081R	
Q809	8-729-905-23	TRANSISTOR 2SA1576R	
Q813	8-729-905-18	TRANSISTOR DTC144EU	
Q814	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q815	8-729-905-35	TRANSISTOR 2SC4081R	
Q818	8-729-822-51	TRANSISTOR 2SK1469-FA	
Q819	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q820	8-729-905-18	TRANSISTOR DTC144EU	
Q822	8-729-905-35	TRANSISTOR 2SC4081R	
Q823	8-729-905-23	TRANSISTOR 2SA1576R	
Q824	8-729-905-35	TRANSISTOR 2SC4081R	
Q825	8-729-905-23	TRANSISTOR 2SA1576R	
Q826	8-729-905-35	TRANSISTOR 2SC4081R	
Q827	8-729-905-35	TRANSISTOR 2SC4081R	
Q831	8-729-920-48	TRANSISTOR IMH2	
Q901	8-729-905-35	TRANSISTOR 2SC4081R	
Q902	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q911	8-729-905-35	TRANSISTOR 2SC4081R	
Q912	8-729-905-35	TRANSISTOR 2SC4081R	
		RESISTOR	
R101	1-216-845-11	METAL GLAZE 100K 5%	1/16W
R102	1-216-821-11	METAL GLAZE 1K 5%	1/16W
R103	1-216-851-11	METAL GLAZE 330K 5%	1/16W
R104	1-216-841-11	METAL GLAZE 47K 5%	1/16W
R105	1-216-833-11	METAL GLAZE 10K 5%	1/16W
R106	1-216-833-11	METAL GLAZE 10K 5%	1/16W
R107	1-216-845-11	METAL GLAZE 100K 5%	1/16W
R108	1-216-833-11	METAL GLAZE 10K 5%	1/16W
R109	1-216-821-11	METAL GLAZE 1K 5%	1/16W
R110	1-216-833-11	METAL GLAZE 10K 5%	1/16W
R112	1-216-845-11	METAL GLAZE 100K 5%	1/16W
R113	1-216-845-11	METAL GLAZE 100K 5%	1/16W
R114	1-216-845-11	METAL GLAZE 100K 5%	1/16W
R115	1-216-821-11	METAL GLAZE 1K 5%	1/16W
R118	1-216-841-11	METAL GLAZE 47K 5%	1/16W
R127	1-216-845-11	METAL GLAZE 100K 5%	1/16W
R130	1-216-861-11	METAL GLAZE 2.2M 5%	1/16W
R131	1-216-834-11	METAL GLAZE 12K 5%	1/16W
R132	1-216-861-11	METAL GLAZE 2.2M 5%	1/16W
R133	1-216-861-11	METAL GLAZE 2.2M 5%	1/16W
R135	1-216-839-11	METAL GLAZE 33K 5%	1/16W

When indicating parts by reference number, please include the board name.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description				Remark
R136	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R137	1-216-843-11	METAL GLAZE	68K	5%	1/16W	
R138	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R139	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R140	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R141	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R144	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R145	1-216-849-11	METAL GLAZE	220K	5%	1/16W	
R146	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R147	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R155	1-216-849-11	METAL GLAZE	220K	5%	1/16W	
R156	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R157	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R158	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R159	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R160	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R161	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R162	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R163	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R164	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R165	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R166	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R167	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R168	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R169	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R170	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R171	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R172	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R173	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R174	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R175	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R179	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R181	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R182	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R184	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R186	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R188	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R190	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R191	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R194	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R195	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R196	1-216-815-11	METAL GLAZE	330	5%	1/16W	
R197	1-216-838-11	METAL GLAZE	27K	5%	1/16W	
R198	1-216-826-11	METAL GLAZE	2.7K	5%	1/16W	
R201	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R202	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R203	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R204	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R205	1-216-838-11	METAL GLAZE	27K	5%	1/16W	
R206	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R207	1-216-851-11	METAL GLAZE	330K	5%	1/16W	
R208	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	
R209	1-216-838-11	METAL GLAZE	27K	5%	1/16W	
R210	1-216-843-11	METAL GLAZE	68K	5%	1/16W	
R211	1-216-843-11	METAL GLAZE	68K	5%	1/16W	
R212	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R213	1-216-192-00	METAL GLAZE	560	5%	1/8W	
R214	1-216-172-00	METAL GLAZE	82	5%	1/8W	
R215	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R216	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R217	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R218	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R219	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R220	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R221	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R222	1-216-853-11	METAL GLAZE	470K	5%	1/16W	
R223	1-216-853-11	METAL GLAZE	470K	5%	1/16W	
R224	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R225	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R226	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R227	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R228	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R229	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R230	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R231	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R232	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R233	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R235	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R236	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R237	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R238	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R239	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R241	1-216-336-11	METAL GLAZE	47K	1%	1/10W	
R242	1-216-336-11	METAL GLAZE	47K	1%	1/10W	
R250	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R251	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R252	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R253	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R262	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R264	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R265	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R267	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R268	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R269	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R270	1-216-194-00	METAL GLAZE	680	5%	1/8W	
R271	1-216-194-00	METAL GLAZE	680	5%	1/8W	
R272	1-216-194-00	METAL GLAZE	680	5%	1/8W	
R273	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R274	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R275	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R276	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R277	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R278	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R279	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R280	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R281	1-216-833-11	METAL GLAZE	10K	5%	1/16W	

When indicating parts by reference number, please include the board name.

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Ref.No	Part No.	Description	Remark
R282	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R283	1-216-821-11	METAL GLAZE 1K 5% 1/16W	
R284	1-216-865-11	METAL GLAZE 3K 5% 1/16W	
R299	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R301	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W	
R302	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W	
R303	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W	
R304	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W	
R305	1-216-854-11	METAL GLAZE 560K 5% 1/16W	
R306	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W	
R307	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R308	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W	
R309	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W	
R312	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R313	1-216-847-11	METAL GLAZE 150K 5% 1/16W	
R314	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R316	1-216-839-11	METAL GLAZE 33K 5% 1/16W	
R317	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R318	1-216-821-11	METAL GLAZE 1K 5% 1/16W	
R319	1-216-809-11	METAL GLAZE 100 5% 1/16W	
R320	1-216-811-11	METAL GLAZE 150 5% 1/16W	
R321	1-216-831-11	METAL GLAZE 6.8K 5% 1/16W	
R322	1-216-838-11	METAL GLAZE 27K 5% 1/16W	
R323	1-216-857-11	METAL GLAZE 1M 5% 1/16W	
R325	1-216-826-11	METAL GLAZE 2.7K 5% 1/16W	
R326	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W	
R327	1-216-857-11	METAL GLAZE 1M 5% 1/16W	
R328	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R329	1-216-826-11	METAL GLAZE 2.7K 5% 1/16W	
R330	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R331	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R332	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R334	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R342	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R401	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R402	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R403	1-216-831-11	METAL GLAZE 6.8K 5% 1/16W	
R404	1-216-831-11	METAL GLAZE 6.8K 5% 1/16W	
R405	1-216-828-11	METAL GLAZE 3.9K 5% 1/16W	
R407	1-216-829-11	METAL GLAZE 4.7K 5% 1/16W	
R408	1-216-836-11	METAL GLAZE 18K 5% 1/16W	
R409	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R410	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R411	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R412	1-216-841-11	METAL GLAZE 47K 5% 1/16W	
R413	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W	
R414	1-216-841-11	METAL GLAZE 47K 5% 1/16W	
R415	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W	
R416	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R417	1-216-831-11	METAL GLAZE 6.8K 5% 1/16W	
R418	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W	
R419	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R420	1-216-841-11	METAL GLAZE 47K 5% 1/16W	
R421	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R422	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R423	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W	
R424	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W	
R425	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R426	1-216-830-11	METAL GLAZE 5.6K 5% 1/16W	
R427	1-216-824-11	METAL GLAZE 1.8K 5% 1/16W	
R428	1-216-837-11	METAL GLAZE 22K 5% 1/16W	
R429	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R430	1-216-823-11	METAL GLAZE 1.5K 5% 1/16W	
R431	1-216-789-11	METAL GLAZE 2.2 5% 1/16W	
R432	1-216-789-11	METAL GLAZE 2.2 5% 1/16W	
R433	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R434	1-216-826-11	METAL GLAZE 2.7K 5% 1/16W	
R435	1-216-789-11	METAL GLAZE 2.2 5% 1/16W	
R436	1-216-815-11	METAL GLAZE 330 5% 1/16W	
R437	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R438	1-216-838-11	METAL GLAZE 27K 5% 1/16W	
R439	1-216-838-11	METAL GLAZE 27K 5% 1/16W	
R440	1-216-838-11	METAL GLAZE 27K 5% 1/16W	
R441	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R443	1-216-836-11	METAL GLAZE 18K 5% 1/16W	
R444	1-216-848-11	METAL GLAZE 180K 5% 1/16W	
R445	1-216-821-11	METAL GLAZE 1K 5% 1/16W	
R446	1-216-848-11	METAL GLAZE 180K 5% 1/16W	
R447	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R448	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W	
R450	1-216-864-11	METAL GLAZE 0 5% 1/16W	
R451	1-216-836-11	METAL GLAZE 18K 5% 1/16W	
R452	1-216-839-11	METAL GLAZE 33K 5% 1/16W	
R453	1-216-827-11	METAL GLAZE 3.3K 5% 1/16W	
R454	1-216-841-11	METAL GLAZE 47K 5% 1/16W	
R455	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R456	1-216-801-11	METAL GLAZE 22 5% 1/16W	
R460	1-217-671-11	METAL GLAZE 1 5% 1/10W	
R461	1-217-671-11	METAL GLAZE 1 5% 1/10W	
R462	1-217-671-11	METAL GLAZE 1 5% 1/10W	
R463	1-217-671-11	METAL GLAZE 1 5% 1/10W	
R464	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R466	1-216-837-11	METAL GLAZE 22K 5% 1/16W	
R467	1-216-828-11	METAL GLAZE 3.9K 5% 1/16W	
R468	1-216-831-11	METAL GLAZE 6.8K 5% 1/16W	
R469	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R470	1-216-815-11	METAL GLAZE 330 5% 1/16W	
R471	1-216-839-11	METAL GLAZE 33K 5% 1/16W	
R601	1-216-821-11	METAL GLAZE 1K 5% 1/16W	
R602	1-216-821-11	METAL GLAZE 1K 5% 1/16W	
R603	1-216-838-11	METAL GLAZE 27K 5% 1/16W	
R604	1-216-857-11	METAL GLAZE 1M 5% 1/16W	
R605	1-216-825-11	METAL GLAZE 2.2K 5% 1/16W	
R606	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R607	1-216-821-11	METAL GLAZE 1K 5% 1/16W	
R608	1-216-821-11	METAL GLAZE 1K 5% 1/16W	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description				Remark
R609	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R610	1-216-861-11	METAL GLAZE	2.2M	5%	1/16W	
R611	1-216-849-11	METAL GLAZE	220K	5%	1/16W	
R612	1-218-349-11	METAL GLAZE	240K	5%	1/16W	
R614	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R615	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R616	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R617	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R618	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R619	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	
R620	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	
R621	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R622	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R623	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R624	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R629	1-216-811-11	METAL GLAZE	150	5%	1/16W	
R630	1-216-813-11	METAL GLAZE	220	5%	1/16W	
R631	1-216-815-11	METAL GLAZE	330	5%	1/16W	
R632	1-216-801-11	METAL GLAZE	22	5%	1/16W	
R633	1-216-820-11	METAL GLAZE	820	5%	1/16W	
R634	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R635	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R636	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R637	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R638	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R639	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R640	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R641	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R651	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R652	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R653	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R654	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R655	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R656	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R657	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R658	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R659	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R660	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R661	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R662	1-216-842-11	METAL GLAZE	56K	5%	1/16W	
R663	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R664	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R665	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R666	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R667	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R668	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R669	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R670	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R671	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R672	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R673	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R674	1-216-813-11	METAL GLAZE	220	5%	1/16W	
R675	1-216-814-11	METAL GLAZE	270	5%	1/16W	

Ref.No	Part No.	Description				Remark
R676	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R677	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R678	1-216-813-11	METAL GLAZE	220	5%	1/16W	
R679	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R680	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R681	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R682	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R683	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R684	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R685	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R686	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R687	1-216-816-11	METAL GLAZE	390	5%	1/16W	
R688	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R689	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R690	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R701	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R702	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R703	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R705	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R706	**1-249-441-11**	**CARBON**	**100K**			
R707	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R708	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R709	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R710	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R711	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R712	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R715	1-216-838-11	METAL GLAZE	27K	5%	1/16W	
R716	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R717	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R718	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R719	1-216-816-11	METAL GLAZE	390	5%	1/16W	
R720	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R721	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R722	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R724	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R725	1-216-818-11	METAL GLAZE	560	5%	1/16W	
R726	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R727	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R728	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R729	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R730	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R731	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R732	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R733	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R734	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R736	1-216-827-11	METAL GLAZE	3.3K	5%	1/16W	
R737	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R738	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R739	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R741	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R742	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	
R743	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R744	1-216-816-11	METAL GLAZE	390	5%	1/16W	
R745	1-216-820-11	METAL GLAZE	820	5%	1/16W	

When indicating parts by reference number, please include the board name.

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Ref.No	Part No.	Description				Remark
R746	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R747	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R748	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R749	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R750	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R751	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R752	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R753	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R754	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R755	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R756	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R757	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R758	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R759	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R760	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R761	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R762	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R763	1-216-835-11	METAL GLAZE	15K	5%	1/16W	
R764	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R765	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R766	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R767	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R768	1-216-841-11	METAL GLAZE	47K	5%	1/16W	
R769	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R770	1-216-824-11	METAL GLAZE	1.8K	5%	1/16W	
R771	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R772	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R773	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R774	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R775	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R776	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R777	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R778	1-216-864-11	METAL GLAZE	0	5%	1/16W	
R779	1-216-857-11	METAL GLAZE	1M	5%	1/16W	
R780	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R782	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R783	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R784	1-216-015-00	METAL GLAZE	39	5%	1/10W	
R785	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R786	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R787	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R788	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R789	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R790	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R791	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R792	1-216-304-11	METAL GLAZE	3.3	5%	1/10W	
R793	1-216-830-11	METAL GLAZE	5.6K	5%	1/16W	
R801	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R804	1-216-811-11	METAL GLAZE	150	5%	1/16W	
R805	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R806	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R807	1-216-816-11	METAL GLAZE	390	5%	1/16W	
R808	1-216-864-11	METAL GLAZE	0	5%	1/16W	

Ref.No	Part No.	Description				Remark
R809	1-216-818-11	METAL GLAZE	560	5%	1/16W	
R810	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R811	1-216-839-11	METAL GLAZE	33K	5%	1/16W	
R822	1-216-822-11	METAL GLAZE	1.2K	5%	1/16W	
R825	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R826	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R832	1-216-840-11	METAL GLAZE	39K	5%	1/16W	
R833	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R834	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R835	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R836	1-216-829-11	METAL GLAZE	4.7K	5%	1/16W	
R837	1-216-849-11	METAL GLAZE	220K	5%	1/16W	
R838	1-216-828-11	METAL GLAZE	3.9K	5%	1/16W	
R839	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R840	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R841	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R843	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R844	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R847	1-216-818-11	METAL GLAZE	560	5%	1/16W	
R849	1-216-836-11	METAL GLAZE	18K	5%	1/16W	
R850	1-216-834-11	METAL GLAZE	12K	5%	1/16W	
R851	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R852	1-216-809-11	METAL GLAZE	100	5%	1/16W	
R855	1-216-814-11	METAL GLAZE	270	5%	1/16W	
R856	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R857	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R860	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R861	1-216-818-11	METAL GLAZE	560	5%	1/16W	
R862	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R863	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R864	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R865	1-216-832-11	METAL GLAZE	8.2K	5%	1/16W	
R867	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R868	1-216-831-11	METAL GLAZE	6.8K	5%	1/16W	
R875	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R876	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R877	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R878	1-216-812-11	METAL GLAZE	180	5%	1/16W	
R879	1-216-818-11	METAL GLAZE	560	5%	1/16W	
R880	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R882	1-216-821-11	METAL GLAZE	1K	5%	1/16W	
R885	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R886	1-216-817-11	METAL GLAZE	470	5%	1/16W	
R889	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R890	1-216-837-11	METAL GLAZE	22K	5%	1/16W	
R895	1-216-833-11	METAL GLAZE	10K	5%	1/16W	
R901	1-216-789-11	METAL GLAZE	2.2	5%	1/16W	
R902	1-216-789-11	METAL GLAZE	2.2	5%	1/16W	
R906	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R907	1-216-845-11	METAL GLAZE	100K	5%	1/16W	
R908	1-216-819-11	METAL GLAZE	680	5%	1/16W	
R909	1-216-825-11	METAL GLAZE	2.2K	5%	1/16W	
R911	1-216-841-11	METAL GLAZE	47K	5%	1/16W	

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description	Remark
R912	1-216-833-11	METAL GLAZE 10K 5% 1/16W	
R913	1-216-861-11	METAL GLAZE 2.2M 5% 1/16W	
R914	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R915	1-216-845-11	METAL GLAZE 100K 5% 1/16W	
R916	1-216-849-11	METAL GLAZE 220K 5% 1/16W	
R917	1-216-813-11	METAL GLAZE 220 5% 1/16W	
R918	1-216-813-11	METAL GLAZE 220 5% 1/16W	
R919	1-216-813-11	METAL GLAZE 220 5% 1/16W	
R920	1-216-813-11	METAL GLAZE 220 5% 1/16W	
R931	1-216-864-11	METAL GLAZE 0 5% 1/16W	
R932	1-216-864-11	METAL GLAZE 0 5% 1/16W	
R933	1-216-864-11	METAL GLAZE 0 5% 1/16W	
R934	1-216-864-11	METAL GLAZE 0 5% 1/16W	
R935	1-216-864-11	METAL GLAZE 0 5% 1/16W	
R936	1-216-864-11	METAL GLAZE 0 5% 1/16W	

NETWORK RESISTOR

Ref.No	Part No.	Description	Remark
RB101	1-236-412-11	NETWORK, RES 1.0K	
RB102	1-236-432-11	NETWORK, RES 47K	
RB103	1-236-432-11	NETWORK, RES 47K	
RB104	1-236-424-11	NETWORK, RES 10K	
RB105	1-236-424-11	NETWORK, RES 10K	
RB106	1-236-424-11	NETWORK, RES 10K	
RB107	1-236-424-11	NETWORK, RES 10K	
RB108	1-236-424-11	NETWORK, RES 10K	
RB109	1-236-424-11	NETWORK, RES 10K	
RB110	1-236-424-11	NETWORK, RES 10K	
RB111	1-236-412-11	NETWORK, RES 1.0K	
RB112	1-236-424-11	NETWORK, RES 10K	
RB113	1-236-424-11	NETWORK, RES 10K	
RB115	1-236-412-11	NETWORK, RES 1.0K	
RB116	1-236-412-11	NETWORK, RES 1.0K	
RB117	1-236-412-11	NETWORK, RES 1.0K	
RB118	1-236-412-11	NETWORK, RES 1.0K	
RB119	1-236-412-11	NETWORK, RES 1.0K	
RB120	1-236-412-11	NETWORK, RES 1.0K	
RB121	1-236-412-11	NETWORK, RES 1.0K	
RB122	1-236-424-11	NETWORK, RES 10K	
RB123	1-236-424-11	NETWORK, RES 10K	
RB130	1-236-424-11	NETWORK, RES 10K	
RB131	1-236-424-11	NETWORK, RES 10K	
RB132	1-236-436-11	NETWORK, RES 100K	
RB201	1-236-412-11	NETWORK, RES 1.0K	
RB202	1-236-412-11	NETWORK, RES 1.0K	
RB203	1-236-412-11	NETWORK, RES 1.0K	
RB204	1-236-412-11	NETWORK, RES 1.0K	
RB205	1-236-412-11	NETWORK, RES 1.0K	
RB206	1-236-412-11	NETWORK, RES 1.0K	
RB207	1-236-412-11	NETWORK, RES 1.0K	
RB208	1-236-412-11	NETWORK, RES 1.0K	
RB209	1-236-412-11	NETWORK, RES 1.0K	
RB210	1-236-412-11	NETWORK, RES 1.0K	
RB211	1-236-412-11	NETWORK, RES 1.0K	
RB212	1-236-412-11	NETWORK, RES 1.0K	
RB213	1-236-412-11	NETWORK, RES 1.0K	
RB214	1-236-424-11	NETWORK, RES 10K	
RB215	1-236-424-11	NETWORK, RES 10K	
RB216	1-236-424-11	NETWORK, RES 10K	
RB217	1-236-424-11	NETWORK, RES 10K	
RB218	1-236-424-11	NETWORK, RES 10K	
RB219	1-236-424-11	NETWORK, RES 10K	
RB220	1-236-424-11	NETWORK, RES 10K	
RB221	1-236-424-11	NETWORK, RES 10K	
RB222	1-236-424-11	NETWORK, RES 10K	
RB223	1-236-412-11	NETWORK, RES 1.0K	
RB224	1-236-424-11	NETWORK, RES 10K	
RB225	1-236-412-11	NETWORK, RES 1.0K	
RB227	1-236-412-11	NETWORK, RES 1.0K	
RB801	1-236-412-11	NETWORK, RES 1.0K	
RB802	1-236-412-11	NETWORK, RES 1.0K	
RB803	1-236-412-11	NETWORK, RES 1.0K	
RB804	1-236-412-11	NETWORK, RES 1.0K	

VARIABLE RESISTOR

Ref.No	Part No.	Description	Remark
RV301	1-238-090-11	RES, ADJ CERMET 10K	
RV401	1-238-087-11	RES, ADJ CERMET 1K	
RV402	1-238-089-11	RES, ADJ CERMET 4.7K	
RV601	1-238-091-11	RES, ADJ CERMET 22K	
RV602	1-238-092-11	RES, ADJ CERMET 47K	
RV603	1-238-089-11	RES, ADJ CERMET 4.7K	
RV604	1-238-088-11	RES, ADJ CERMET 2.2K	
RV605	1-238-088-11	RES, ADJ CERMET 2.2K	
RV651	1-238-087-11	RES, ADJ CERMET 1K	
RV652	1-238-087-11	RES, ADJ CERMET 1K	
RV653	1-238-088-11	RES, ADJ CERMET 2.2K	
RV701	1-238-087-11	RES, ADJ CERMET 1K	
RV741	1-238-090-11	RES, ADJ CERMET 10K	
RV742	1-238-089-11	RES, ADJ CERMET 4.7K	
RV771	1-238-092-11	RES, ADJ CERMET 47K	
RV772	1-238-087-11	RES, ADJ CERMET 1K	
RV802	1-238-087-11	RES, ADJ CERMET 1K	

CRYSTAL

Ref.No	Part No.	Description	Remark
X101	1-527-997-21	VIBRATOR, CRYSTAL	
X102	1-577-118-11	VIBRATOR, LITHIUM NIOBATE	
X201	1-577-349-21	VIBRATOR, CRYSTAL	
X701	1-577-117-21	VIBRATOR, CRYSTAL (4.43MHz)	

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A-7062-436-A CC-55 BOARD, COMPLETE (Ref.No 5,000 Series)
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CAPACITOR

Ref.No	Part No.	Description	Remark
C001	1-162-946-11	CERAMIC CHIP 27PF 5% 50V	
C002	1-162-974-11	CERAMIC CHIP 0.01MF 50V	
C003	1-135-180-21	TANTAL. CHIP 3.3MF 20% 6.3V	

When indicating parts by reference number, please include the board name.

CC-55 RG-22

Ref.No	Part No.	Description		Remark
C004	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C005	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C006	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C007	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C008	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C009	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C010	1-164-360-11	CERAMIC CHIP 0.1MF		16V
C011	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C012	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C013	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C014	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C015	1-135-180-21	TANTAL. CHIP 3.3MF	20%	6.3V
C016	1-162-946-11	CERAMIC CHIP 27PF	5%	50V
C017	1-162-974-11	CERAMIC CHIP 0.01MF		50V
C018	1-162-946-11	CERAMIC CHIP 27PF	5%	50V

IC

IC001	8-752-333-24	IC CXL1506M

COIL

L001	1-410-988-11	INDUCTOR CHIP 0.39UH
L002	1-410-988-11	INDUCTOR CHIP 0.39UH
L003	1-412-031-11	INDUCTOR CHIP 47UH
L004	1-410-988-11	INDUCTOR CHIP 0.39UH
L005	1-410-988-11	INDUCTOR CHIP 0.39UH
L006	1-410-988-11	INDUCTOR CHIP 0.39UH
L007	1-410-988-11	INDUCTOR CHIP 0.39UH
L008	1-412-031-11	INDUCTOR CHIP 47UH
L009	1-410-988-11	INDUCTOR CHIP 0.39UH
L010	1-410-988-11	INDUCTOR CHIP 0.39UH

RESISTOR

R001	1-216-857-11	METAL GLAZE	1M	5%	1/16W
R002	1-216-823-11	METAL GLAZE	1.5K	5%	1/16W
R003	1-216-810-11	METAL GLAZE	120	5%	1/16W
R004	1-216-844-11	METAL GLAZE	82K	5%	1/16W
R005	1-216-823-11	METAL GLAZE	1.5K	5%	1/16W
R006	1-216-864-11	METAL GLAZE	0	5%	1/16W

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*A-7062-437-A RG-22 BOARD, COMPLETE (Ref.No 2,000 Series)
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CAPACITOR

Ref.No	Part No.	Description		Remark
C001	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C002	1-135-151-21	TANTAL. CHIP 4.7MF	20%	4V
C004	1-163-111-00	CERAMIC CHIP 56PF	5%	50V
C005	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C006	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C007	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C008	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C009	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C010	1-126-206-11	ELECT CHIP 100MF	20%	6.3V
C011	1-164-634-11	CERAMIC CHIP 1MF		16V
C012	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C013	1-163-103-00	CERAMIC CHIP 27PF	5%	50V
C014	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C015	1-164-634-11	CERAMIC CHIP 1MF		16V
C017	1-163-241-11	CERAMIC CHIP 39PF	5%	50V
C018	1-163-241-11	CERAMIC CHIP 39PF	5%	50V
C019	1-162-638-11	CERAMIC CHIP 1MF		16V
C020	1-162-638-11	CERAMIC CHIP 1MF		16V
C021	1-163-103-00	CERAMIC CHIP 27PF	5%	50V
C022	1-135-076-21	TANTAL. CHIP 1MF	20%	35V
C023	1-163-125-00	CERAMIC CHIP 220PF	5%	50V
C025	1-163-103-00	CERAMIC CHIP 27PF	5%	50V
C026	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C027	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C028	1-163-241-11	CERAMIC CHIP 39PF	5%	50V
C029	1-135-162-21	TANTAL. CHIP 33MF	20%	6.3V
C030	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C031	1-162-638-11	CERAMIC CHIP 1MF		16V
C032	1-162-638-11	CERAMIC CHIP 1MF		16V
C034	1-163-103-00	CERAMIC CHIP 27PF	5%	50V
C035	1-163-097-00	CERAMIC CHIP 15PF	5%	50V
C036	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C037	1-163-115-00	CERAMIC CHIP 82PF	5%	50V
C038	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C039	1-163-111-00	CERAMIC CHIP 56PF	5%	50V
C040	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C041	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C042	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C043	1-162-638-11	CERAMIC CHIP 1MF		16V
C044	1-162-638-11	CERAMIC CHIP 1MF		16V
C045	1-162-638-11	CERAMIC CHIP 1MF		16V
C046	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C047	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C048	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C049	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C050	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C051	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C052	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C053	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C054	1-135-156-21	TANTAL. CHIP 6.8MF	20%	10V
C055	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C056	1-135-156-21	TANTAL. CHIP 6.8MF	20%	10V
C057	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C058	1-126-199-11	ELECT CHIP 6.8MF	20%	35V
C059	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C060	1-126-199-11	ELECT CHIP 6.8MF	20%	35V
C061	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C062	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C063	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C064	1-163-139-00	CERAMIC CHIP 820PF	10%	50V
C065	1-163-115-00	CERAMIC CHIP 82PF	5%	50V
C066	1-126-204-11	ELECT CHIP 47MF	20%	16V

When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description		Remark
C067	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C068	1-126-206-11	ELECT CHIP 100MF	20%	6.3V
C069	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C070	1-164-634-11	CERAMIC CHIP 1MF		16V
C071	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C072	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C073	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C074	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C075	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C076	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C077	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C078	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V
C079	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C080	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C081	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C082	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C083	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C084	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C085	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C086	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C803	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C804	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C805	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C809	1-163-038-00	CERAMIC CHIP 0.1MF		25V

CONNECTOR

CN001	1-565-212-11	CONNECTOR, FPC (ZIF) 26P
CN002	1-568-238-11	CONNECTOR, FPC (1.0MM) (ZIF) 16P
CN501	1-568-235-21	CONNECTOR, FPC (1.0MM) (ZIF) 10P
CN901	1-565-528-11	PIN, CONNECTOR (PC BOARD) 3P

TRIMMER

CV001	1-141-311-11	CAP, CHIP TRIMMER
CV002	1-141-370-11	CAP, CHIP TRIMMER
CV801	1-141-368-11	CAP, CHIP TRIMMER

DIODE

D001	8-719-914-47	DIODE MA152WK

DELAY LINE

DL001	1-415-649-11	DELAY LINE, 1H (ULTRASONIC)

FILTER

FL001	1-236-955-11	FILTER, LOW PASS (Y:PAL)

IC

IC001	8-759-009-07	IC MC14053BF
IC002	8-759-635-37	IC M52003AFP
IC801	8-759-150-07	IC UPD6451AGT-601

COIL

L002	1-410-381-11	INDUCTOR CHIP 10UH

Ref.No	Part No.	Description	Remark
L003	1-412-029-11	INDUCTOR CHIP 10UH	
L004	1-410-388-21	INDUCTOR CHIP 39UH	
L005	1-410-388-21	INDUCTOR CHIP 39UH	
L006	1-410-386-11	INDUCTOR CHIP 27UH	
L007	1-412-028-11	INDUCTOR CHIP 4.7UH	
L008	1-412-028-11	INDUCTOR CHIP 4.7UH	
L009	1-412-032-11	INDUCTOR CHIP 100UH	
L010	1-412-032-11	INDUCTOR CHIP 100UH	
L011	1-410-383-31	INDUCTOR CHIP 15UH	
L012	1-410-388-21	INDUCTOR CHIP 39UH	
L013	1-412-029-11	INDUCTOR CHIP 10UH	
L801	1-412-066-21	INDUCTOR CHIP 220UH	
L802	1-412-192-11	INDUCTOR 56UH	

TRANSISTOR

Q001	8-729-100-66	TRANSISTOR 2SC1623
Q002	8-729-100-66	TRANSISTOR 2SC1623
Q003	8-729-100-66	TRANSISTOR 2SC1623
Q004	8-729-901-01	TRANSISTOR DTC144EK
Q005	8-729-901-01	TRANSISTOR DTC144EK
Q006	8-729-904-41	TRANSISTOR FMY3
Q007	8-729-904-44	TRANSISTOR FMY4
Q008	8-729-904-41	TRANSISTOR FMY3
Q009	8-729-904-44	TRANSISTOR FMY4
Q010	8-729-904-41	TRANSISTOR FMY3
Q011	8-729-904-44	TRANSISTOR FMY4
Q012	8-729-901-03	TRANSISTOR DTC144WK
Q013	8-729-141-48	TRANSISTOR 2SB624-BV345
Q014	8-729-901-01	TRANSISTOR DTC144EK
Q015	8-729-100-66	TRANSISTOR 2SC1623
Q901	8-729-901-00	TRANSISTOR DTC124EK
Q902	8-729-901-05	TRANSISTOR DTA124EK

RESISTOR

R001	1-216-748-11	METAL GLAZE	39K	5%	1/10W
R002	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R003	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R005	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R006	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R007	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R008	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R009	1-216-295-00	METAL GLAZE	0	5%	1/10W
R010	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R011	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R012	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R013	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R014	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R015	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R016	1-216-038-00	METAL GLAZE	360	5%	1/10W
R017	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R018	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R019	1-216-066-00	METAL GLAZE	5.1K	5%	1/10W

When indicating parts by reference number, please include the board name.

RG-22

Ref.No	Part No.	Description				Remark
R020	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R021	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R023	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R024	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R025	1-216-104-00	METAL GLAZE	200K	5%	1/10W	
R027	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R028	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R029	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R030	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R031	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R032	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R033	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R034	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R035	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R036	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R037	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R038	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R039	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R040	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R041	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R043	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R044	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R045	1-216-542-11	METAL GLAZE	12K	1%	1/10W	
R046	1-216-333-11	METAL GLAZE	15K	1%	1/10W	
R047	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R048	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R049	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R050	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R051	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R052	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R054	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R055	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R056	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R057	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R059	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R060	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R061	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R062	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R063	1-216-090-00	METAL GLAZE	51K	5%	1/10W	
R064	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R065	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R066	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R067	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R068	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R069	1-216-332-11	METAL GLAZE	11K	1%	1/10W	
R070	1-216-747-11	METAL GLAZE	33K	1%	1/10W	
R072	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R073	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R076	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R077	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R078	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R079	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R080	1-216-089-00	METAL GLAZE	47K	5%	1/10W	

Ref.No	Part No.	Description				Remark
R081	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R084	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R085	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R086	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R087	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R501	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R502	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R503	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R504	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R505	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R506	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R507	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R801	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R802	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R803	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R804	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R805	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R806	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R807	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R808	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R809	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R810	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R811	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R812	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R901	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

VARIABLE RESISTOR

RV001	1-241-118-11	RES, VAR, CARBON 20K
RV002	1-238-088-11	RES, ADJ, CERMET 2.2K
RV003	1-238-092-11	RES, ADJ CERMET 47K
RV004	1-241-006-11	RES, VAR, CARBON 50K
RV005	1-238-092-11	RES, ADJ CERMET 47K
RV006	1-238-092-11	RES, ADJ CERMET 47K
RV007	1-238-092-11	RES, ADJ CERMET 47K
RV008	1-238-092-11	RES, ADJ CERMET 47K
RV009	1-238-092-11	RES, ADJ CERMET 47K
RV601	1-241-029-11	RES, VAR, CARBON 2K/2K

SWITCH

SW601	1-570-386-21	SWITCH, SLIDE (DBB)

COIL

T001	1-459-949-11	COIL

CRYSTAL

X001	1-567-504-81	OSCILLATOR, CRYSTAL (4.43MHz)

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When indicating parts by reference number, please include the board name.

Ref.No	Part No.	Description		Remark
	*A-7062-438-A	TU-126 BOARD, COMPLETE (Ref.No 6,000 Series) ***********************		
	3-744-166-01	HOLDER, ANTENNA		
	3-746-907-01	LID, TDD SHIELD CASE		
	3-746-908-01	LID, REAR, TDD SHIELD CASE		
	3-746-915-01	LID, REAR, TU SHIELD CASE		

CAPACITOR

Ref.No	Part No.	Description		Remark
C001	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C002	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C004	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C005	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C006	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C007	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C008	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C009	1-126-205-11	ELECT CHIP 47MF	20%	6.3V
C010	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C011	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C012	1-163-090-00	CERAMIC CHIP 7PF	0.25PF	50V
C013	1-163-090-00	CERAMIC CHIP 7PF	0.25PF	50V
C014	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C018	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C019	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C020	1-135-217-21	TANTAL. CHIP 15MF	20%	6.3V
C021	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C022	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C023	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C024	1-164-336-11	CERAMIC CHIP 0.33MF		25V
C025	1-135-149-21	TANTAL. CHIP 2.2MF	20%	10V
C026	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C027	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C028	1-163-095-00	CERAMIC CHIP 12PF	5%	50V
C029	1-126-206-11	ELECT CHIP 100MF	20%	6.3V
C030	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C031	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C032	1-135-149-21	TANTAL. CHIP 2.2MF	20%	10V
C033	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C034	1-135-157-21	TANTAL. CHIP 10MF	20%	6.3V
C035	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C036	1-163-036-00	CERAMIC CHIP 0.068MF		50V
C037	1-163-036-00	CERAMIC CHIP 0.068MF		50V
C038	1-163-036-00	CERAMIC CHIP 0.068MF		50V
C039	1-163-121-00	CERAMIC CHIP 150PF	5%	50V
C040	1-163-095-00	CERAMIC CHIP 12PF	5%	50V
C041	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C042	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C044	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C045	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C046	1-135-181-21	TANTAL. CHIP 4.7MF	20%	6.3V
C047	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C048	1-163-115-00	CERAMIC CHIP 82PF	5%	50V
C049	1-163-099-00	CERAMIC CHIP 18PF	5%	50V
C050	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C051	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C054	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C058	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C059	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C060	1-135-217-21	TANTAL. CHIP 15MF	20%	6.3V
C061	1-163-016-00	CERAMIC CHIP 0.0039MF	10%	50V
C062	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C063	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C065	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C066	1-126-206-11	ELECT CHIP 100MF	20%	6.3V
C070	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C071	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V
C072	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V
C073	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C101	1-135-149-21	TANTAL. CHIP 2.2MF	20%	10V
C501	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V
C502	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C503	1-135-217-21	TANTAL. CHIP 15MF	20%	6.3V
C504	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C505	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V
C506	1-126-204-11	ELECT CHIP 47MF	20%	16V
C507	1-135-156-21	TANTAL. CHIP 6.8MF	20%	10V
C508	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C509	1-124-779-00	ELECT CHIP 10MF	20%	16V
C510	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C511	1-126-200-11	ELECT CHIP 10MF	20%	35V
C512	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C513	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C514	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C515	1-135-156-21	TANTAL. CHIP 6.8MF	20%	10V
C516	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C517	1-135-153-21	TANTAL. CHIP 2.2MF	20%	25V
C518	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C520	1-126-602-11	ELECT CHIP 3.3MF	20%	50V
C521	1-163-036-00	CERAMIC CHIP 0.068MF		50V
C522	1-135-155-21	TANTAL. CHIP 4.7MF	20%	16V
C524	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C525	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C526	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C527	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V

FILTER

Ref.No	Part No.	Description
CF051	1-577-560-11	FILTER, CERAMIC
CF052	1-579-217-11	DISCRIMINATOR, CERAMIC
CF053	1-409-478-11	FILTER, TRAP (CERAMIC)
CF061	1-577-561-11	FILTER, CERAMIC
CF062	1-579-218-11	DISCRIMINATOR, CERAMIC

CONNECTOR

Ref.No	Part No.	Description
CN001	1-569-634-41	CONNECTOR, BOARD TO BOARD 30P
CN002	1-566-523-11	CONNECTOR, FPC (ZIF) 7P
CN003	*1-565-541-11	PIN, CONNECTOR (PC BOARD) 2P

When indicating parts by reference number, please include the board name.

TU-126

Ref.No	Part No.	Description	Remark
		DIODE	
D001	8-719-801-50	DIODE MA152WK	
D501	8-719-801-50	DIODE MA152WK	
D502	8-719-801-50	DIODE MA152WK	
D503	8-719-801-50	DIODE MA152WK	
D504	8-719-801-50	DIODE MA152WK	
D601	8-719-106-44	DIODE RD9.1M-B2	
		INDUCTOR CHIP	
FB501	1-412-390-21	INDUCTOR CHIP 0UH	
FB502	1-412-390-21	INDUCTOR CHIP 0UH	
		IC	
IC001	8-759-504-59	IC TDA3842T-T	
IC002	8-759-634-94	IC M52018FP	
IC005	8-759-998-92	IC LM393D	
IC501	⚠8-759-500-70	IC FA7610N	
IC502	8-759-157-40	IC UPC574J	
		AMPLIFIER	
IU001	⚠1-466-330-11	AMPLIFIER, ISOLATION (RA-1)	
		JACK	
J001	1-507-921-00	JACK	
J601	1-563-282-21	JACK, SMALL TYPE	
J602	1-563-282-21	JACK, SMALL TYPE	
		COIL	
L002	1-410-987-11	INDUCTOR CHIP 0.33UH	
L004	1-412-029-11	INDUCTOR CHIP 10UH	
L005	1-412-031-11	INDUCTOR CHIP 47UH	
L006	1-410-377-31	INDUCTOR CHIP 4.7UH	
L007	1-410-380-31	INDUCTOR CHIP 8.2UH	
L008	1-410-393-11	INDUCTOR CHIP 100UH	
L051	1-410-992-11	INDUCTOR CHIP 0.82UH	
L052	1-412-029-11	INDUCTOR CHIP 10UH	
L053	1-412-029-11	INDUCTOR CHIP 10UH	
L501	1-412-028-11	INDUCTOR CHIP 4.7UH	
L502	1-412-028-11	INDUCTOR CHIP 4.7UH	
L503	1-412-028-11	INDUCTOR CHIP 4.7UH	
L505	1-412-030-11	INDUCTOR CHIP 22UH	
		TRANSISTOR	
Q001	8-729-230-XX	TRANSISTOR 2SC26690Y	
Q002	8-729-100-66	TRANSISTOR 2SC1623	
Q003	8-729-901-47	TRANSISTOR DTA143EK	
Q004	8-729-901-47	TRANSISTOR DTA143EK	
Q005	8-729-901-47	TRANSISTOR DTA143EK	
Q006	8-729-901-01	TRANSISTOR DTC144EK	
Q007	8-729-901-01	TRANSISTOR DTC144EK	
Q008	8-729-216-22	TRANSISTOR 2SA1162	
Q009	8-729-100-66	TRANSISTOR 2SC1623	

Ref.No	Part No.	Description	Remark
Q010	8-729-216-22	TRANSISTOR 2SA1162	
Q011	8-729-100-66	TRANSISTOR 2SC1623	
Q012	8-729-901-01	TRANSISTOR DTC144EK	
Q013	8-729-901-01	TRANSISTOR DTC144EK	
Q014	8-729-901-01	TRANSISTOR DTC144EK	
Q015	8-729-100-66	TRANSISTOR 2SC1623	
Q016	8-729-100-66	TRANSISTOR 2SC1623	
Q501	⚠8-729-421-15	TRANSISTOR 2SD1119-Q	
Q502	8-729-901-06	TRANSISTOR DTA144EK	
Q503	8-729-901-01	TRANSISTOR DTC144EK	
Q504	8-729-601-58	TRANSISTOR 2SC3053-C	
		RESISTOR	
R002	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R003	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R006	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R007	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R008	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R009	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R010	1-216-019-00	METAL GLAZE 56 5% 1/10W	
R011	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R012	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R013	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R014	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R015	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R016	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R017	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R018	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R019	1-216-029-00	METAL GLAZE 150 5% 1/10W	
R020	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R021	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R022	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R023	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R026	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R027	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R028	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R029	1-216-109-00	METAL GLAZE 330K 5% 1/10W	
R031	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R032	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R033	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R034	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R035	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R036	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R038	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R039	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R040	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R041	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R042	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R043	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R044	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R045	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R046	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R047	1-216-079-00	METAL GLAZE 18K 5% 1/10W	

When indicating parts by reference number, please include the board name.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description				Remark
R048	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R049	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R051	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R056	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R057	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R058	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R059	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R060	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R068	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R069	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R070	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R071	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R072	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R073	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R075	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R102	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R104	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R105	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R106	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R107	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R108	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R109	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R111	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R501	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R502	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R503	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R504	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R505	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R506	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R507	1-216-103-00	METAL GLAZE	180K	5%	1/10W	
R508	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R509	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R511	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R512	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R513	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R514	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R516	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R517	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R518	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R520	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R521	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R601	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R602	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R603	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R604	1-216-025-00	METAL GLAZE	100	5%	1/10W	

VARIABLE RESISTOR

Ref.No	Part No.	Description	Remark
RV101	1-238-087-11	RES, ADJ CERMET 1K	
RV501	1-238-087-11	RES, ADJ CERMET 1K	

FILTER

Ref.No	Part No.	Description	Remark
SWF001	1-579-170-11	FILTER, SAW	
SWF002	1-579-169-11	FILTER, SAW	

TRANSFORMER

Ref.No	Part No.	Description	Remark
T001	1-460-079-11	COIL	
T002	1-460-078-11	COIL	
T004	1-460-078-11	COIL	
T101	1-460-078-11	COIL	
T501	1-450-107-11	TRANSFORMER, DC-DC CONVERTER	

TUNER

Ref.No	Part No.	Description	Remark
TU001	⚠1-465-569-11	TUNER, ET (BT-KG301)	

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*1-634-347-11 UC-6 BOARD (Ref.No 4,000 Series)
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*3-746-939-01 INSULATOR, UC

CONNECTOR

Ref.No	Part No.	Description	Remark
CN001	1-566-529-11	CONNECTOR, FPC (ZIF) 13P	
CN002	1-566-527-11	CONNECTOR, FPC (ZIF) 11P	
CN003	1-566-547-11	CONNECTOR, FPC (NON ZIF) 15P	

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*A-7071-287-A **KB-10P** BOARD, COMPLETE (Ref.No 4,000 Series)
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*3-744-130-01 HOLDER (PC), LED

CONNECTOR

Ref.No	Part No.	Description	Remark
CN802	1-566-760-11	PIN, CONNECTOR (PC BOARD) 5P	

DIODE

Ref.No	Part No.	Description	Remark
D801	8-719-937-45	DIODE GL-1EG101	
D803	8-719-975-81	DIODE GL1PR111	
D804	8-719-975-81	DIODE GL1PR111	
D805	8-719-975-81	DIODE GL1PR111	
D806	8-719-970-14	DIODE GL1HY111	
D808	8-719-951-22	DIODE IMN10T108	
D809	8-719-951-22	DIODE IMN10T108	
D810	8-719-104-34	DIODE 1S2835-T1	

TRANSISTOR

Ref.No	Part No.	Description	Remark
Q801	8-729-403-24	TRANSISTOR XN4210-TW	
Q802	8-729-403-24	TRANSISTOR XN4210-TW	
Q803	8-729-403-24	TRANSISTOR XN4210-TW	
Q804	8-729-920-48	TRANSISTOR IMH2-T110	

RESISTOR

Ref.No	Part No.	Description				Remark
R801	1-216-033-00	METAL GLAZE	220	5%	1/10W	

When indicating parts by reference number, please include the board name.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

KB-10P DC-22P CN-6P SB-3P

Ref.No	Part No.	Description	Remark
R803	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R804	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R805	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R806	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R808	1-216-075-00	METAL GLAZE 12K 5% 1/10W	

SWITCH

Ref.No	Part No.	Description	Remark
S801	1-572-344-11	SWITCH, SLIDE (POWER)	
S802	1-572-078-11	SWITCH, TACTILE (CH -)	
S803	1-572-078-11	SWITCH, TACTILE (CH +)	
S805	1-571-102-11	SWITCH, SLIDE (EJECT)	
S806	1-572-078-11	SWITCH, TACTILE (REW)	
S807	1-572-078-11	SWITCH, TACTILE (FF)	
S808	1-572-078-11	SWITCH, TACTILE (PB)	
S809	1-572-078-11	SWITCH, TACTILE (STOP)	
S810	1-572-078-11	SWITCH, TACTILE (PAUSE)	
S811	1-571-102-11	SWITCH, SLIDE (REC)	
S812	1-572-078-11	SWITCH, TACTILE (SLOW)	

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*A-7071-288-A DC-22P BOARD, COMPLETE (Ref.No 4,000 Series)

Ref.No	Part No.	Description	Remark
	*3-744-170-01	HOLDER, DC	
	3-746-959-01	SPACER, DC	

JACK

Ref.No	Part No.	Description	Remark
J702	1-537-241-11	TERMINAL BOARD (BATTERY)	

IC LINK

Ref.No	Part No.	Description	Remark
PS701	⚠1-532-840-21	LINK, IC	
PS702	⚠1-532-840-21	LINK, IC	
PS703	⚠1-532-840-21	LINK, IC	
PS704	⚠1-532-840-21	LINK, IC	
PS705	⚠1-532-840-21	LINK, IC	
PS706	⚠1-532-840-21	LINK, IC	

FLAT CABLE

Ref.No	Part No.	Description	Remark
W701	1-575-823-11	CABLE, FLAT (1.0MM PITCH) 16P	

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*A-7071-289-A CN-6P BOARD, COMPLETE (Ref.No 3,000 Series)

CONNECTOR

Ref.No	Part No.	Description	Remark
CN601	1-566-544-41	CONNECTOR, FPC (NON ZIF) 12P	
CN602	1-565-527-11	PIN, CONNECTOR (PC BOARD) 2P	

DIODE

Ref.No	Part No.	Description	Remark
D602	8-719-106-43	DIODE RD9.1M-T1B1	
D603	8-719-106-43	DIODE RD9.1M-T1B1	
D604	8-719-106-43	DIODE RD9.1M-T1B1	
D605	8-719-106-43	DIODE RD9.1M-T1B1	
D606	8-719-106-43	DIODE RD9.1M-T1B1	
D608	8-719-106-43	DIODE RD9.1M-T1B1	

JACK

Ref.No	Part No.	Description	Remark
J601	1-562-952-11	CONNECTOR 12P	

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*A-7071-290-A SB-3P BOARD, COMPLETE (Ref.No 6,000 Series)

CONNECTOR

Ref.No	Part No.	Description	Remark
CN901	1-566-539-11	CONNECTOR, FPC (NON ZIF) 7P	

RESISTOR

Ref.No	Part No.	Description	Remark
R901	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R903	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R904	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R906	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R907	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R908	1-216-085-00	METAL GLAZE 33K 5% 1/10W	

SWITCH

Ref.No	Part No.	Description	Remark
S901	1-572-078-11	SWITCH, TACTILE (LINE AUDIO SELECT)	
S902	1-572-078-11	SWITCH, TACTILE (MAIN/SUB)	
S904	1-572-078-11	SWITCH, TACTILE (TV SYSTEM)	
S905	1-572-078-11	SWITCH, TACTILE (SP/LP)	
S906	1-572-078-11	SWITCH, TACTILE (CLEAR)	
S907	1-572-078-11	SWITCH, TACTILE (POSITION)	
S908	1-572-078-11	SWITCH, TACTILE (PRESET)	
S909	1-572-078-11	SWITCH, TACTILE (SEEK)	
S910	1-572-078-11	SWITCH, TACTILE (INPUT SEL)	

****

MISCELLANEOUS

Ref.No	Part No.	Description	Remark
	⚠1-466-333-11	INVERTER UNIT, DC-AC	
	1-466-334-11	SWITCH BLOCK, CONTROL	
	1-501-456-11	ANTENNA, TELESCOPIC	
	1-544-323-11	SPEAKER	
	1-569-346-11	CONNECTOR, FPC (TRANSLATION) 10P	
	1-569-347-11	CONNECTOR, FPC (TRANSLATION) 13P	
	1-572-253-11	SWITCH, SLIDE (ENCODER)	
	1-575-856-11	CABLE, FLAT (1.0MM PITCH) 7 CORE	
	1-575-857-11	CABLE, FLAT (1.0MM PITCH) 12 CORE	
	1-575-858-11	CABLE, FLAT (1.0MM PITCH) 16 CORE	
	1-575-859-11	CABLE, FLAT (1.0MM PITCH) 15 CORE	
	1-628-060-12	FP-89 FLEXIBLE BOARD	
	1-628-061-12	FP-90 FLEXIBLE BOARD	
	1-634-994-11	FP-271 FLEXIBLE BOARD	
	1-634-995-11	FP-272 FLEXIBLE BOARD	

When indicating parts by reference number, please include the board name.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remark
	1-634-996-11	FP-273 FLEXIBLE BOARD	
	1-634-997-11	FP-274 FLEXIBLE BOARD	
	1-808-505-12	SENSOR (DEW)	
BL901	1-518-668-11	TUBE UNIT, FLUORECENT	
D301	8-719-820-44	PHOTO COUPLER TLP907-0 (SONY2)	
D302	8-719-940-81	DIODE GL452S	
D303	8-719-820-44	PHOTO COUPLER TLP907-0 (SONY2)	
LCD901	1-809-002-12	DISPLAY MODULE, LIQUID CRYSTAL	
M902	8-835-331-01	MOTOR, DC U-22A (CAPSTAN)	
M903	A-7040-208-A	MOTOR ASSY, THREADING (LOADING)	
Q301	8-729-906-48	EE-TP109	
Q302	8-729-906-48	EE-TP109	
S302	1-572-298-11	SWITCH, PUSH (ME/MP, MP HG, REC PROOF)	
S901	1-571-099-11	SWITCH (CASSETTE DOWN)	

****

ACCESSORIES AND PACKING MATERIALS

****

Part No.	Description	Remark
1-417-176-11	DISTRIBUTOR, ANTENNA (GERMANY MODEL)	
⚠.1-528-174-31	BATTERY, LITHIUM (CR2032 TYPE)	
1-574-517-11	CORD, CONNECTION	
2-366-919-00	BAG, PROTECTION	
3-728-996-01	CASE, SOFT	
*3-744-184-01	CUSHION (UPPER)	
*3-744-185-01	CUSHION (LOWER)	
3-751-853-11	MANUAL, INSTRUCTION (ENGLISH)	(AEP/UK MODEL)
3-751-853-41	MANUAL, INSTRUCTION (GERMAN/FRENCH/SPANISH)	(AEP MODEL)
3-751-853-51	MANUAL, INSTRUCTION (DUTCH/SWEDISH/ITALIAN)	(AEP NODEL)
3-751-853-61	MANUAL, INSTRUCTION (GERMAN)	(GERMANY MODEL)

**** ACCESSORIES AND PACKING MATERIALS (KIT) ****

Part No.	Description
*3-749-784-01	CUSHION (UPPER), ACC
*3-749-785-01	CUSHION (LOWER), ACC
** AC-V30	AC POWER ADAPTOR
*** NP-66H	BATTERY PACK (AEP MODEL)
*** MDR-E454	HEAD PHONE

Note

** MARK PARTS IS AVAILABLE FOR REPAIR SERVICE.

*** MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORY.

****

HARDWARE LIST

****

SCREW

Ref.No	Part No.	Description	Remark
	7-627-553-18	SCREW, PRECISION +P 2X2	
	7-627-555-88	SCREW, PRECISION +P 1.4X1.8	
	7-627-652-08	SCREW, PRECISION +RK 2X2.5	
	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE 3	
	7-627-553-68	SCREW, PRECISION +P 2X6 TYPE3	

NUT

Ref.No	Part No.	Description	Remark
	7-684-023-04	N 3, TYPE 2	

WASHER

Ref.No	Part No.	Description	Remark
	7-623-208-22	SW 3, TYPE 2	
	7-688-003-01	W 3, SMALL	

****

When indicating parts by reference number, please include the board name.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 7
MECHANICAL ADJUSTMENTS

For Mechanical Adjustments

Refer to mechanical adjustment (8 mm Video MECHANICAL ADJUSTMENT MANUAL III) manual for the adjustments and checks of mechanism section and the mechanical parts replacement. (9-972-732-11)
For setting of the track shift mode, however, refer to the following.

7-1. SETTING THE TRACK SHIFT MODE

[Setting Method]

1) Setting the test mode* 0011 (Jig switching position 3)

CN802

1	TEST B
2	GND
3	TEST A
4	TEST C
5	TEST D

Jig switching position 3

*Refer to 「8-1-7. Test mode」.

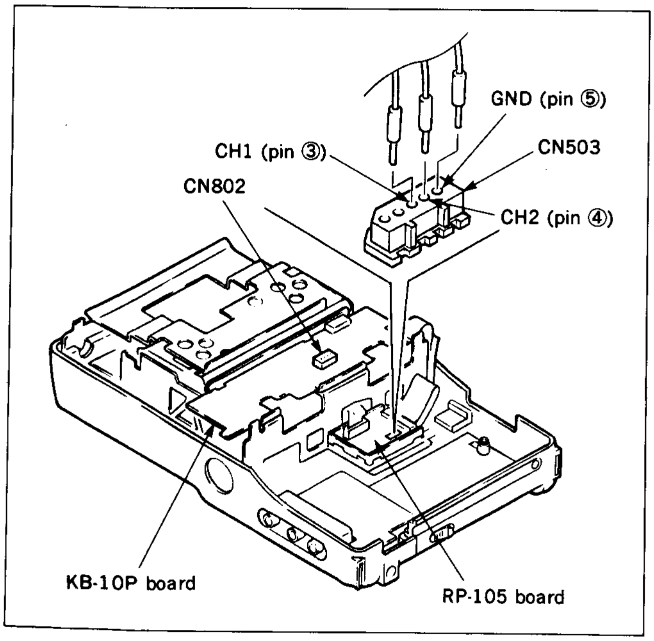


Fig. 7-1.

7-2. PREPARATION FOR ADJUSTMENT

1) Clean the tape running surfaces (tape guide, drum, capstan shaft, pinch roller.)
2) Connect to the oscilloscope.
   CH1 : RP-105 board CN503 pin ③ (PB RF)
   CH2 : RP-105 board CN503 pin ④ (SWP)
3) Play back the tracking alignment tape (WR5-1CP) (8-967-995-07).
4) Check that the RF waveform of the oscilloscope is flat at both inlet and outlet sides. When not flat, make adjustment as follows. (Refer to mechanical adjustment manual.)

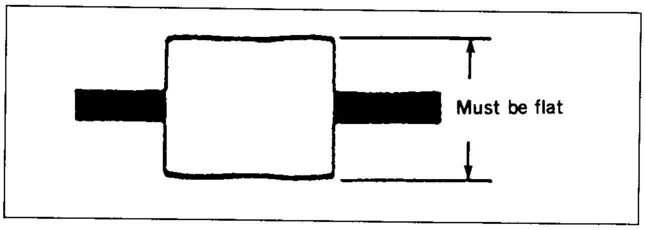


Fig. 7-2.

SECTION 8
ELECTRICAL ADJUSTMENTS

See the adjusting parts location diagram from on page 174 for the adjustment.

8-1. PREPARATION FOR ADJUSTMENT

The following measurement instruments are used for the electric adjustment.

8-1-1. Using Instruments

1) Monitor TV
2) Oscilloscope having two phenomena, band of 10MHz or more, and the delay mode.
3) Frequency counter
4) Pattern generator (having the video output terminal)
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion rate meter
9) Audio attenuator
10) Stabilized power source
11) Alignment tape
    - For tracking adjustment
      (WR5-1CP) Part code: 8-967-995-07
    - For checking of SP mode operation
      (WR5-5CSP) Part code: 8-967-995-47
      (WR5-4CSP) Part code: 8-967-995-46
    - For checking of LP mode operation
      (WR5-4CL) Part code: 8-967-995-56
    - For checking of AFM stereo operation
      (WR5-9CS) Part code: 8-967-995-28
    - For video frequency characteristic adjustment
      (WR5-6C) Part code: 8-967-995-17
12) Extension harness
    Between AU-98 board CN101 and SV-66 board CN005 J-6082-111-A
    Between AU-98 board CN102 and SV-66 board CN006 J-6082-112-A
    Between RG-22 board CN001 and SV-66 board CN004 J-6082-113-A
13) COMMON voltage adjustment jig (J-6082-024-A)

8-1-2. Connection of Instruments

If there is no special direction, connect the measuring instruments as shown in the following figure and perform the adjustment.

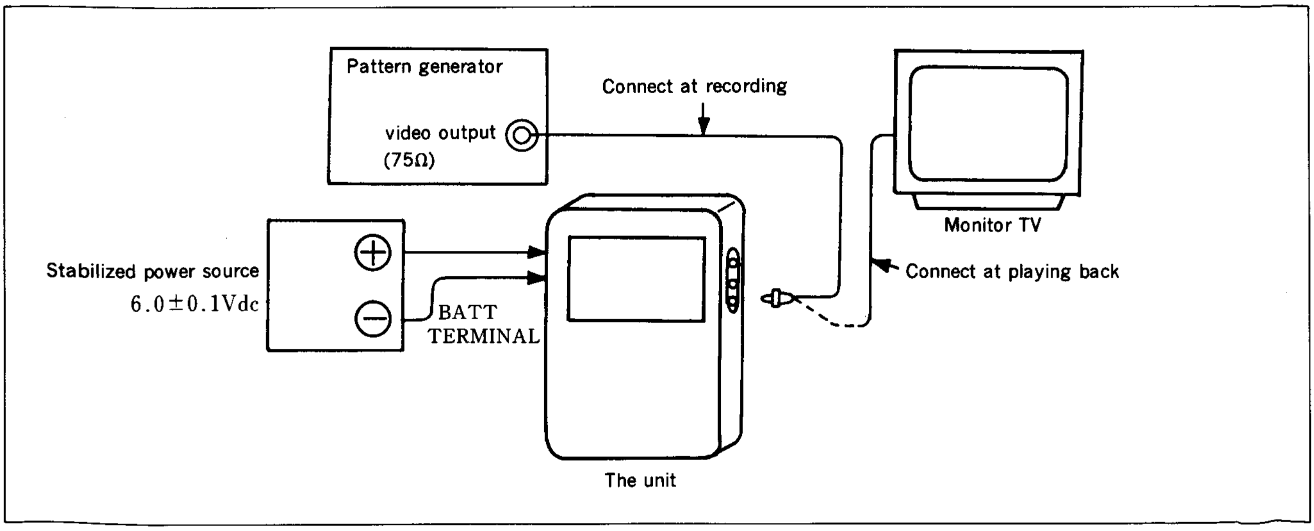

Pattern generator
video output (75Ω)
Connect at recording
Monitor TV
Stabilized power source
6.0±0.1Vdc
⊕
⊖
BATT TERMINAL
Connect at playing back
The unit

Fig. 8-1.

8-1-3. VIDEO/AUDIO Terminal of the Unit

The VIDEO/AUDIO (L/R) terminal of the unit has the function of both input and output. The operation as the input terminal or as the output terminal is automatically selected according to the operating condition of the unit.
When connecting with the other instruments, perform the connection according to the input-output of the terminal.

The operation condition of the unit and the automatic input-output selection of the terminal.

Input mode selected with the INPUT SELECT button	The case that the unit is stopped or the recording mode is selected.	The case that the unit is set to the playback mode.
TUNER (television screen)	Output	Output
LINE*	Input	Output
CAMERA	Output	Output

* When the LINE is selected with the INPUT SELECT button, the display of INPUT or OUTPUT is shown according to the operation condition.

8-1-4. Set-up at the Adjustment

As the video signal obtained from the pattern generator is used as the adjustment signal for adjusting, it is required that the video output signal satisfies the specified value. Connect the pattern generator and the oscilloscope with the VIDEO input-output terminal. Check that the amplitude of the synchronous signal of the video signal is approximately 0.3V, the amplitude of the picture part is approximately 0.7V, the amplitude of the burst signal is approximately 0.3V and is flat, and the level proportion of the burst signal and the red signal is 0.30 : 0.66.

The video signal (color bar) used for the adjustment is shown in the Fig. 8-2.

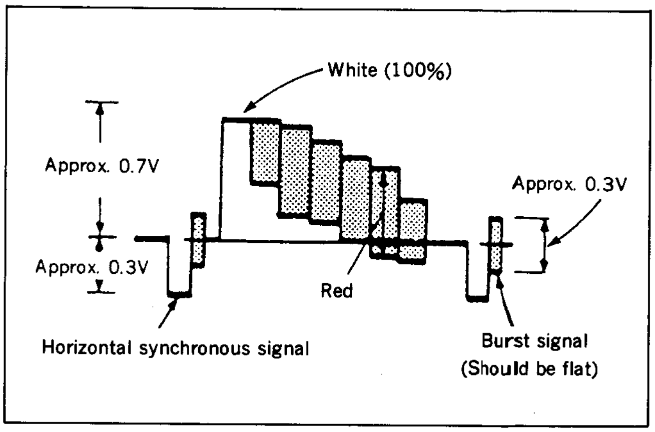


Fig. 8-2. Color bar signal of the pattern generator

8-1-5. Alignment Tape

The following tapes are prepared for the alignment tape. Use the tape designated in the signal column of each adjustment.

Name	Recording mode	Type of tape	Speed of tape	Recording contents		Usage
				Video area	PCM area	
Tracking WR5-1CP	L	MP	SP	CH2: 1MHz Signal for tape pass adjustment Marker for switching position adjustment(CH1: 9MHz)		Tape pass adjustment Switching position adjustment
Video frequency characteristic WR5-6C	L	MP	SP	RF sweep 0~15MHz Marker 1, 3.58, 5.5, 7MHz		Frequency characteristic adjustment
Checking operation WR5-4CSP or WR5-5CSP	L	MP	SP	● Video signal Color bar 4 minutes Monoscope 4 minutes ● Audio signal (AFM) 400Hz 60% modulation	● Audio signal (PCM) monoscope part 20Hz, 20sec. 400Hz, 20sec. 14kHz, 20sec. } Repeat four times Color bar part 1kHz 4 minutes	Checking operation
WR5-4CL	L	MP	LP	● Video signal Color bar 4 minutes monoscope 4 minutes ● Audio signal (AFM) 400Hz 60% modulation		
AFM stereo checking operation WR5-9CS	L	MP	SP	● Video signal Color bar 4 minutes 400Hz 8minutes ● Audio signal (AFM) • Color bar part Lch: 400Hz L+R (1.5MHz±60kHz) Rch: 1kHz L−R (1.7MHz±30kHz) • monoscope part DEV+Bilingual (Including a RF ID signal.)	● Audio signal (PCM) 400Hz 8minutes	AFM stereo PB matrix adjustment

Note: Recording mode
L·········Normal mode

Types of tape
MP·········Application type metal tape

Table. 8-1.

The color bar signal recorded in the alignment tape is shown in the Fig.8-3.

Note : Measure with the VIDEO INPUT-OUTPUT terminal (75Ω terminal) playback mode.

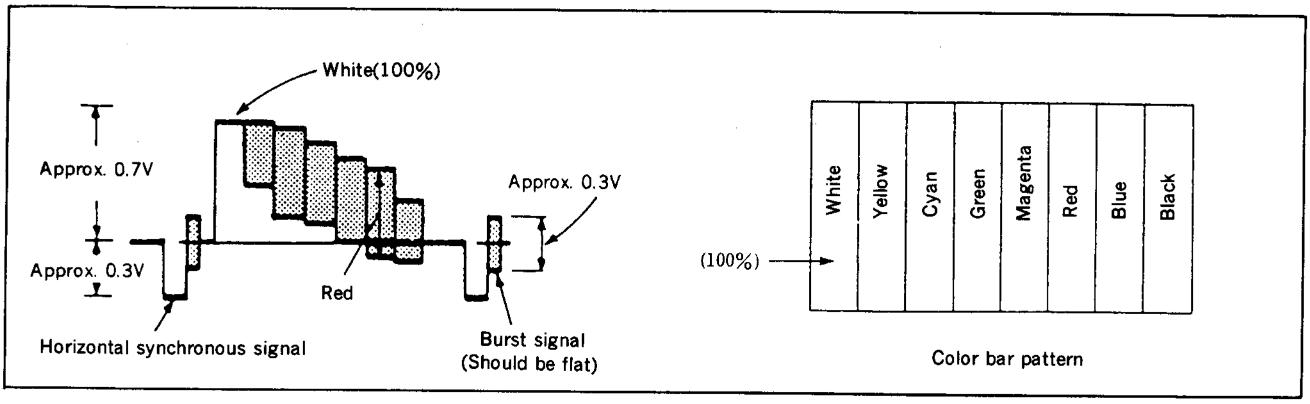

White(100%)
Approx. 0.7V
Approx. 0.3V
Red
Approx. 0.3V
Horizontal synchronous signal
Burst signal
(Should be flat)
(100%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Black
Color bar pattern

Fig.8-3. Color bar signal of the alignment tape

8-1-6. Input/Output Level and Impedance

VIDEO/AUDIO (L/R) Input-output terminal (phono jack)

VIDEO input	Input signal: 1Vp-p, 75Ω unbalance, Synchronous negative
VIDEO output	Output signal: 1Vp-p, 75Ω unbalance, Synchronous negative
AUDIO input	Input level: -7.5dBs(0dBs=0.775Vrms) Input impedance: 47kΩ or more
AUDIO output	Specified output: −7.5dBs Output impedance: 10kΩ or less

8-1-7. TEST MODE

Use CN802 on the KB-10P board.
CN802 pin position

1	TEST B
2	GND
3	TEST A
4	TEST C
5	TEST D

When each terminal of the TEST A, B, C and D is shortened and opened, twelve types of TEST MODE are selected.

When servicing, attaching the "test mode set jig" (J-6082-110-A) to CN802 allows to select twelve types of test mode with the hexadecimal selecting switches of the jig.

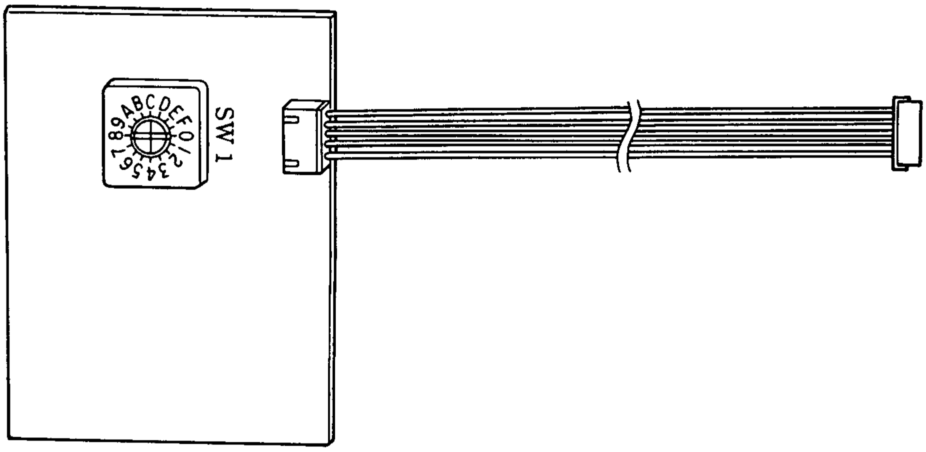


Fig8-4. Test mode set jig

TEST MODE table		Switch position of the test mode set jig.
DCBA	SELECT MODE	
0 0 0 0	Normal mode	0
0 0 0 1	Emergency off	1
0 0 1 0	TT TEST	2
0 0 1 1	Track shift	3
0 1 0 0	SW POSI L	4
0 1 0 1	SW POSI H	5
0 1 1 0	BATT DOWN PRE	6
0 1 1 1	BATT DOWN END	7
1 0 0 0	VIDEO DATA, MP, SP	8
1 0 0 1	VIDEO DATA, MP, LP	9
1 0 1 0	VIDEO DATA, ME, SP	A
1 0 1 1	VIDEO DATA, ME, LP	B

The test code is designated by four figures.

MSB LSB
"D", TEST "C", TEST "B", TEST "A"

At short : 1, At open : 0

VIDEO DATA SELECT MODE is set at the TEST, "D" MAKE.

① Normal mode

Normal set condition

② Emergency off (Release of emergency stop)

③ TT TEST

MODE for extending the SIRCS code (For producing line)

④ Track shift

Run on the ATF track shift condition at the playback mode.

Timer microcomputer is in the clock adjustment mode.

⑤ SW POSI

Adjustment mode of switch position.

SWPOSI is stored in EEPROM as 16bit DATA. This data is adjusted dividing high 8bit and low 8bit. Use CH+/− KEY.

TEST MODE0101 : Varies at 16μsec per 1STEP.

TEST MODE0100 : Varies at 1μsec per 1STEP. When low 8 bit is incremented from FF. HEX, high 8 bit goes UP. And when it is decremented from 00.HEX, high 8 bit goes DOWN.

When the EEPROM has been replaced, it takes considerable time to adjust it. Therefore. the data must be preset before entering adjustment.

Preset function of the SW POSI is added. The preset function sets to high 8 bit to 07. HEX, when the DATA SCREEN KEY of SC part is pressed in the SW POSI adjustment mode. The low 8 bit is not varied.

<When the SV-66 Board IC206 is CXP80116-805Q>

If SW POSI adjustment has been done (for example, for mechanism deck replacement), IC206 should be replaced by CXP80116-821Q (8-752-818-67).

⑥ BATTTERY DOWN ADJUSTMENT

Adjusted with TEST MODE 0111. When this mode is set, the following display is shown on LCD.

$$\left.\begin{array}{ll} \text{PRE} & -1.76 \\ \text{DOWN} & -1.74 \end{array}\right\} \text{ex}$$

Supplying voltage for adjusting is performed with applying 5.50V+0.02V to the battery terminal in the TUNER REC SP MODE. When pressing the CH+ KEY on the KB-10P board, the color of display on the LCD turns to blue for few seconds from white, and then returns to white. The voltage of the battery PRE, DOWN is stored in EEPROM as the 8bit DATA by this operation.

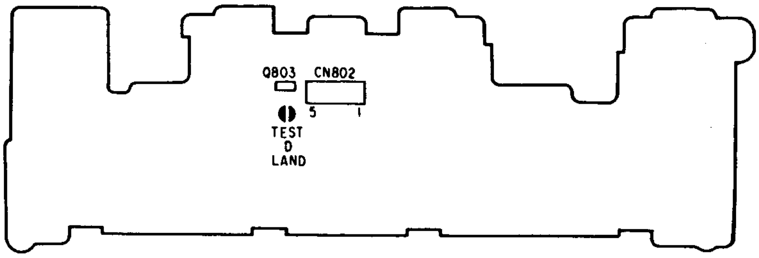
⑦ VIDEO DATA ADJUSTMENT MODE

Short the TEST D (Solder the split land at the lower part of the KB-10P board Q803)
The following display is shown on the LCD.

```
VIDEO DATA

CFL1   1   (RESET)
CFL2   1   (DISPLAY)
NCL1   1   (SLEEP)
NCL2   1   (NEXT)
NCLP1  1   (UP)
NCLP2  1   (CLOCK)
```

KB-10P BOARD (COMPONENT SIDE)



Six types of DATA are varied with the KEY on the SC part.

RESET → COUNTER RESET KEY
DISPLAY → DATA SCREEN KEY
SLEEP → SLEEP KEY
NEXT → NEXT KEY
UP → + KEY
CLOCK → CLOCK SET KEY

Pressing each KEY allows to rewrite DATA. ("0" is rewritten to "L", "1" is rewritten to "H".)
Four modes are adjusted by the types of TAPE (ME, MP) and TAPE SPEED (SP, LP).when the CH+KEY is pressed, the color of the display on the LCD turns to blue for few seconds from white and returns to white. The function to store the screen DATA in EEPROM is added by this operation. (See to the Table 8-2. for the data writing to EEPROM.)

Table 8-2. EE P ROM Write Data

TEST MODE						CFL1	CFL2	NCL1	NCL2	NCLP1	NCLP2
D	C	B	A	Switch position of the test mode set jig							
1	0	0	0	8	SP•MP	H	L	H	L	L	L
1	0	0	1	9	LP•MP	L	H	L	H	H	L
1	0	1	0	A	SP•ME	H	L	H	L	L	L
1	0	1	1	B	LP•ME	L	H	L	H	H	L

Note) When EEPROM is replaced, the following adjustment or write should be performed.

1. SW POSI adjustment
2. BATTERY DOWN adjustment
3. VIDEO DATA write
4. Channel preset

8-2. POWER SOURCE PART ADJUSTMENT

8-2-1. UNREG Power Source Voltage Check (SV-66 board)

Mode	Stop (POWER ON)
Measuring instrument	Digital voltmeter
BL UNREG check	
Measurement point	CN007 Pin ⑫
Specified value	5.9±0.2Vdc
DD UNREG check	
Meaurement point	CN007 Pin ⑪
Specified value	5.9±0.2Vdc
SS UNREG check	
Measurement point	CN007 Pin ⑥
Specified value	5.9±0.2Vdc
LD UNREG check	
Measurement point	CN007 Pin ③
Specified value	5.9±0.2Vdc
CAP UNREG check	
Measurement point	CN007 Pin ①
Specified value	5.9±0.2Vdc

[Checking method]

1) Check that the voltage of the stabilized power source is 6.0±0.1Vdc.
2) Each specified value should be satisfied.

8-2-2. Switch 5V Adjustment (SV-66 board)

Mode	Tuner receiver, record (SP mode)
Signal	Optional TV broadcast
Measurement point	CN009 Pin ⑭
Measuring instrument	Digital voltmeter
Adjustment element	RV401
Specified value	4.95±0.05Vdc

[Adjustment Method]

1) Adjust with RV401 to 4.95±0.05Vdc.

8-2-3. DD Converter Frequency Adjustment (SV-66 board)

Mode	Stop (POWER ON)
Measurement point	IC401 Pin ①
Measuring instrument	Frequency counter
Adjustment element	RV402
Specified value	479±5kHz

[Adjustment Method]

1) Adjust the oscillation frequency to 479±5Vdc with RV402.

8-2-4. −8V Adjustment (TU-126 board)

Mode	Stop (POWER ON)
Measurement point	CN001 Pin ㉒
Measuring instrument	Digital voltmeter
Adjustment element	RV501
Specified value	−8.0±0.1Vdc

[Adjustment Method]

1) Adjust with RV501 to −8.0±0.1Vdc.

8-2-5. LCD Power Source Voltage Check (RG-22 board)

Mode	Stop
Measuring instrument	Digital voltmeter
+13V check	
Measurement point	CN001 Pin ㉒
Specifed value	13.0±0.7Vdc
−20V check	
Measurement point	CN001 Pin ⑳
Specified value	−20.0±1.5Vdc

[Checking Method]

1) Each specified value should be satisfied.

8-2-6. CAM UNREG Check (CN-6P board)

Mode	Camera standby
Measurement point	CN601 Pin ①
Measuring instrument	Digital voltmeter
Specified value	5.75±0.10Vdc

[Connection]

1) Connect the CAMERA connector with the camera.
   If there is no camera, connect the resistance of 12Ω 5W between CN601 Pin ① and Pin ⑤.

[Checking Method]

1) Turn on the power, and input CAMERA with the INPUT SELECT button.
2) Check that the voltage of the stabilized power source is 6.0±0.1Vdc.
3) Check that the voltage of the CN601 Pin ① is 5.75±0.10Vdc.

8-3. SYSTEM CONTROL SYSTEM ADJUSTMENT

8-3-1. Clock Precision Adjustment (SV-66 board)

Mode	Stop (POWER ON)
Test mode *	0011 (Jig switch position 3)
Measurement point	CN003 Pin ㉔
Measuring instrument	Frequency counter
Adjustment element	CV101
Specified value	16384.0±0.2Hz

* Refer to 「8-1-7. Test mode」.

[Adjustment Method]

1) Set the test mode * 0011 (jig switch position 3).
2) Adjust with CV101 to 16384.0±0.2Hz.

8-3-2. Battery Down Adjustment

Refer to 「8-1-7. Test Mode ⑥ Battery Down Adjustment」.

8-4. SERVO SYSTEM ADJUSTMENT

8-4-1. CUE/REV Adjustment (SV-66 board)

Mode	CUE and REV
Signal	Alignment tape : for checking the SP mode operation (WR5-5CSP) : for checking the LP mode operation (WR5-4CL)
Measurement point	IC302 Pin ⑩ and Pin ⑪ and Q306 ©
Measuring instrument	Oscilloscope
Adjustment element	RV301
Specified value	WR5-5CSP at CUE/REV Q306 © DC voltage level is "H" WR5-4CL at CUE/REV Q306 © DC voltage level is "L"

[Adjustment Method]

1) Adjust the IC302 Pin ⑩ to 3.2±0.1Vdc with RV301.
2) Play back the WR5-5CSP and set the CUE and REV mode, check that the DC voltage level of Q306 © is "H" (4Vdc or more). And play back the WR5-4CL and set the CUE and REV mode, check that the DC voltage level of Q306 © is "L" (1Vdc or less).
3) When the item 2) is not satisfied, play back the WR5-5CSP and set the CUE and REV mode, measure the DC voltage of IC302 Pin ⑪. Set this value as V_{SP}. Play back the WR5-4CL and set the CUE and REV mode, measure the DC voltage of IC302 Pin ⑪. Set this value as V_{LP}.

$$V=\frac{V_{SP}+V_{LP}}{2}$$

   Obtain the value of V, and adjust with RV301 so that the DC voltage of IC302 Pin ⑩ is the value of V.
4) Return to the item 2) and reconfirm.

8-4-2. Switching Position Adjustment (RP-105 board)

Mode	Playback
Test mode *	0101 (Jig switching position 5) and 0100 (Jig switching position 4)
Signal	Alignment tape: for tracking adjustment (WR5-1CP)
Measurement point	CH1 : CN503 Pin ④ (RF SW P) CH2 : CN503 Pin ③ (RF OUT)
Measuring instrument	Oscilloscope
Adjustment KEY	KB-10P board S802 (CH−) and S803 (CH+)
Specified value	t=0±10μsec

* Refer to 「8-1-7. Test mode」.

[Adjustment Method]

1) Set the test mode * 0101 (Jig switching position 5).
2) Press the DATA SCREEN button on the upper part of the LCD.
3) Press the S802(CH−) and S803(CH+) switches on the KB-10P board so that "t" is nearly 0. (rough adjustment)
4) Set the test mode * 0100 (Jig switching position 4).
5) Press S802(CH−) and S803 (CH+) switches on the KB-10 board so that t=0±10μsec. (fine adjustment)
6) Disconnect the test mode jig.

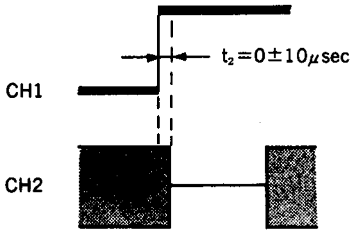


Fig. 8-6.

8-5. VIDEO SYSTEM ADJUSTMENT

Adjust the video system in the following procedures in principle. The color bar signal supplied from the pattern generator is used as the video input signal for the video system adjustment of the recording mode. Check that the synchronous signal and the color burst signal are satisfied with the specified value designated to the adjusting setup as shown in the figure 8-2.

[Adjustment Procedures]

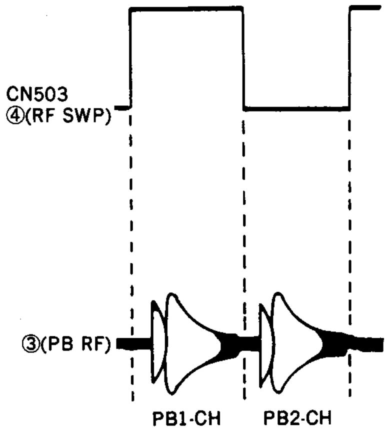
1) Playback frequency characteristic adjustment
2) fsc check
3) SYNC AGC adjustment
4) IR adjustment
5) Y/C separation adjustment
6) Emphasis Y level adjustment
7) De-emphasis Y level adjustment
8) Playback Y level adjustment
9) Playback V level adjustment
10) Y FM carrier adjustment
11) Y FM deviation adjustment
12) Recording Y level adjustment
13) Chroma emphasis adjustment
14) Recording chroma level adjustment

8-5-1. Playback Frequency Characteristic Adjustment (RP-105 board)

Mode	Playback
Signal	Alignment tape : for frequency characteristic adjustment(WR5-6C)
Measurement point	CH1 : CN503 Pin ④(RF SWP) CH2 : CN503 Pin ③(PB RF)
Measuring instrument	Oscilloscope
Adjustment element	PB1-CH : RV501 PB2-CH : RV502
Specified value	3.5MHz level : 5.5MHz level=4 : 3

[Adjustment Method]

1) Adjust with each RV so that the PB1-CH, PB2-CH and PB RF OUT satisfy the specified value.



PB RF

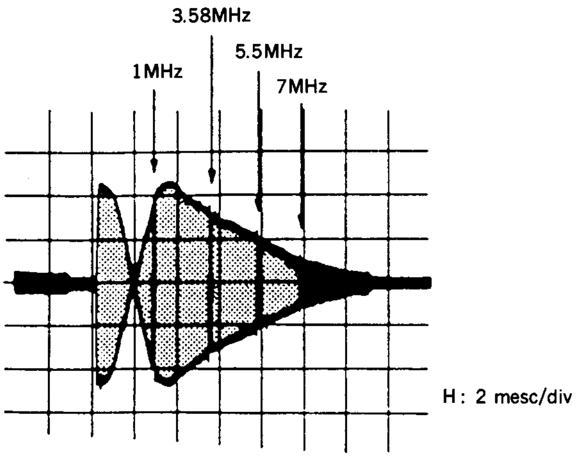


Fig. 8-7

8-5-2. fsc Check (SV-66 board)

Mode	Playback
Signal	Alignment tape : for operation check(WR5-5CSP) Color bar part
Measurement point	IC701 Pin ⑫
Measuring instrument	Oscilloscope Frequency counter
Specified value	Oscillation frequency : 4433619±150Hz Output level : 400±50mVp-p

[Checking Method]

1) Check that the oscillation frequency of the IC701 Pin ⑫ is 4433619±150Hz and the output level is 400±50mVp-p.

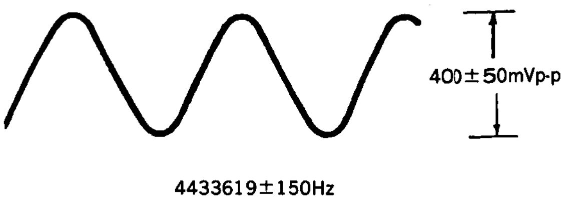


Fig.8-8.

8-5-3. SYNC AGC Adjustment (SV-66 board)

Mode	Recording
Signal	Color bar
Measurement point	IC601 Pin ㉜
Measuring instrument	Oscilloscope
Adjustment element	RV771
Specified value	0.50±0.02Vp-p

[Adjustment Method]

1) Adjust with RV771 to 0.50±0.02Vp-p.

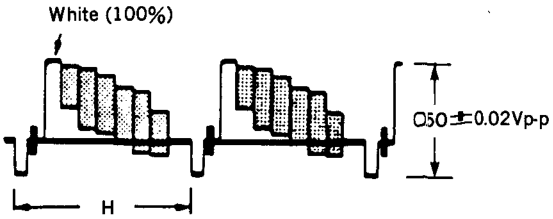


Fig. 8-9.

8-5-4. IR Adjustment (SV-66 board)

Mode	Recording
Signal	Color bar
Measurement point	IC601 Pin ⑦
Measuring instrument	Oscilloscope
Adjustment element	RV601
Specified value	Minimize the red remaining chroma element (60mVp-p or less)

[Preparation]

1) Short with the jumper wire between the Pin ⑭ and Pin (51) of IC601.

[Adjustment Method]

1) Minimize the red remaining chroma element with RV601. (60mVp-p)
2) After the adjustment, disconnect the jumper wire.

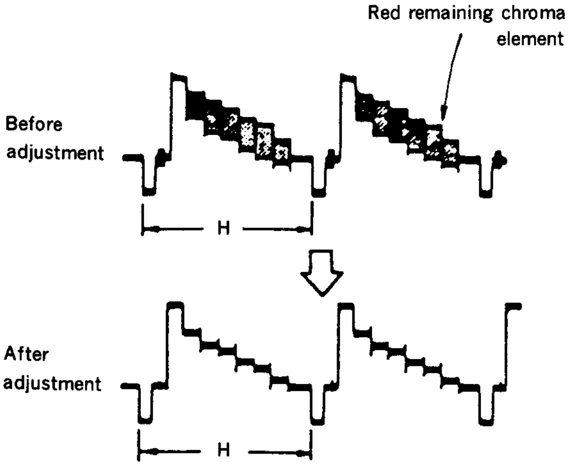

Red remaining chroma element
Before adjustment
H
After adjustment
H

Fig.8-10.

8-5-5. Y/C Separation Adjustment (SV-66 board)

Mode	Recording
Signal	Color bar
Measurement point	IC601 Pin ⑪
Measuring instrument	Oscilloscope
Adjustment element	RV602, RV651 (alternate adjustment)
Specified value	Minimize the red remaining chroma element (30mVp-p or less)

[Adjustment Method]

1) Adjust RV602 and RV651 alternately, and minimize the red remaining chroma element.

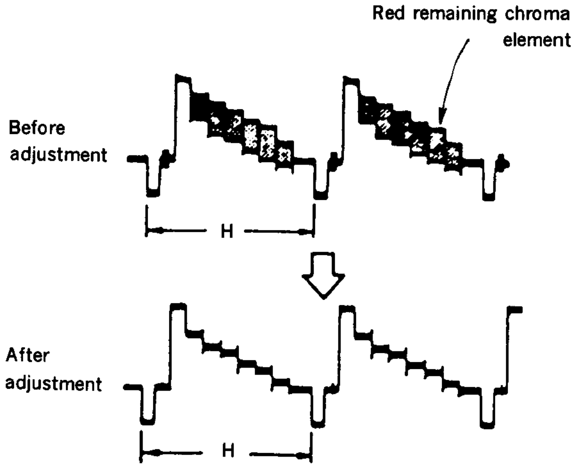

Red remaining chroma element
Before adjustment
H
After adjustment
H

Fig.8-11.

8-5-6. Emphasis Y Level Adjustment (SV-66 board)

Mode	Recording
Signal	Color bar
Measurement point	IC601 Pin ③
Measuring instruement	Oscilloscope
Adjustment element	RV652
Specified value	0.50±0.02Vp-p

[Adjustment Method]

1) Adjust with RV652 to 0.50±0.02Vp-p.

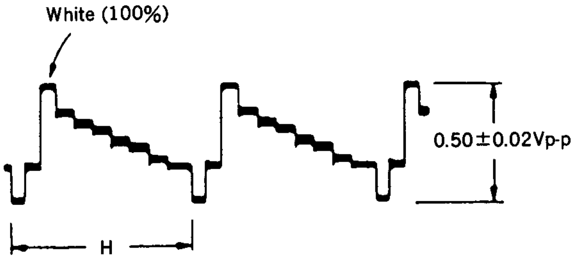


Fig.8-12.

8-5-7. De-emphasis Y Level Adjustment (SV-66 board)

Mode	Playback
Signal	Alignment tape: for operation check (WR5-5CSP)
Measurement point	IC601 Pin ㉑
Measuring instrument	Oscilloscope
Adjustment element	RV605
Specified value	0.50±0.02Vp-p

[Adjustment Method]

1) Adjust with RV605 to 0.50±0.02Vp-p.

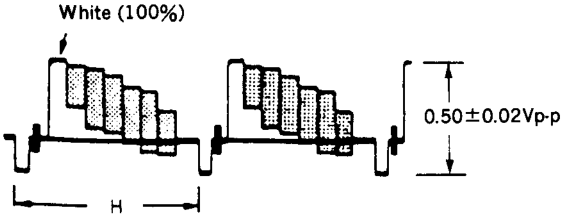


Fig.8-13.

8-5-8. Playback Y Level Adjustment (SV-66 board)

Mode	Playback
Signal	Alignment tape: for operation check (WR5-5CSP) color bar part
Measurement point	IC601 Pin ③
Measuring instrument	Oscilloscope
Adjustment element	RV653
Specified value	0.50±0.02Vp-p

[Adjustment Method]

1) Adjust with RV653 to 0.50±0.02Vp-p.

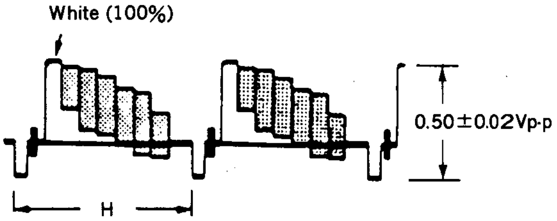


Fig.8-14.

8-5-9. Playback V Level Adjustment (SV-66 board)

Mode	Playback
Signal	Alignment tape: for operation check (WR5-5CSP) color bar part
Measurement point	IC601 Pin ③
Measuring instrument	Oscilloscope
Adjustment element	RV772
Specified value	1.00±0.05Vp-p

[Adjustment Method]

1) Adjust with RV772 to 1.00±0.05Vp-p.

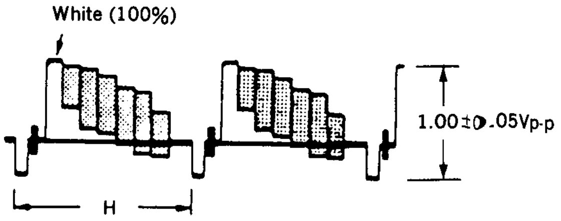


Fig.8-15.

8-5-10. Y FM Carrier Adjustment (SV-66 board)

Mode	Recording
Signal	No signal
Measurement point	CN801 Pin ⑩
Measuring instrument	Frequency counter
Adjustment element	RV603
Specified value	4.37±0.02MHz

[Adjustment Method]

1) Adjust with RV603 to 4.37±0.02MHz.
2) After the adjustment, be sure to perform 「Y FM deviation adjustment」.

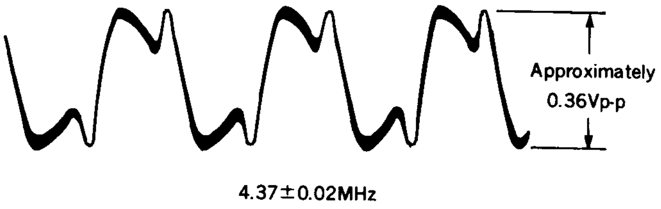


Fig.8-16.

8-5-11. Y FM Deviation Adjustment (SV-66 board)

Mode	Recording and playback
Signal	Color bar
Measurement point	VIDEO input-output terminal (75Ω terminal)
Measuring instrument	Oscilloscope
Adjustment element	RV604
Specified value	Playback level is 1.00±0.05Vp-p

Note) 「De-emphasis Y level adjustment」, 「Playback Y level adjustment」 and 「Y FM carrier adjustment」 should be completed.

[Adjustment Method]

1) Record the color bar signal.
2) Play back the recorded signal.
3) Check the playback output.
   Specified value: 1.00±0.05Vp-p
4) When the specified value is not satisfied, rotate RV604 as shown in the following table and return to the item 1), and then perform the reconfirmation.

	Rotating direction of RV604
Over the specified value	Clockwise (↻)
Under the specified value	Counterclockwise (↺)

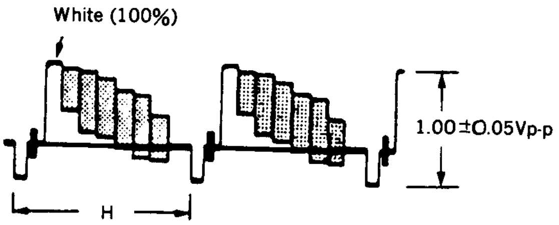


Fig.8-17

8-5-12. Recording Y Level Adjustment (SV-66 board)

Mode	Recording
Signal	No signal
Measurement point	CN801 Pin ⑩
Measuring instrument	Oscilloscope (20MHz band limit ON)
Adjustment element	RV802
Specified value	360±5mV

[Adjustment Method]

1) Adjust with RV802 to 360±5mV.

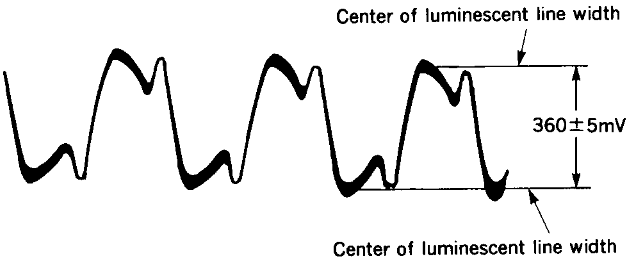

Center of luminescent line width
360±5mV
Center of luminescent line width

Fig.8-18.

8-5-13. Chroma Emphasis Adjustment (SV-66 board)

Mode	Recording
Signal	Color bar
Measurement point	IC701 Pin ㉔
Measuring instrument	Oscilloscope
Adjustment element	FL702
Specified value	Minimize the red level

[Preparation]

1) Connect the resistance of 3.3kΩ between the IC701 Pin ㉔ and GND.

[Adjustment Method]

1) Minimize the red level with FL702.
2) After the adjustment, disconnect the resistance connected in the preparation.

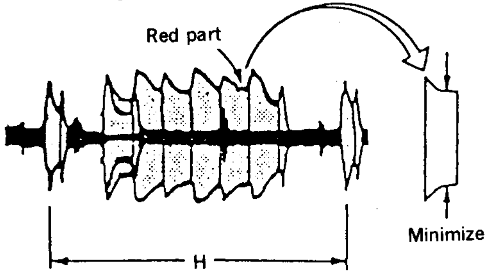

Red part
Minimize
H

Fig.8-19.

8-5-14. Recording Chroma Level Adjustment (SV-66 board)

Mode	Recording
Signal	Color bar
Measurement point	CN801 Pin ⑪
Measuring instrument	Oscilloscope
Adjustment element	RV701
Specified value	Red level : 160±10mVp-p

[Adjustment Method]

1) Adjust the red level to 160±10mVp-p with RV701.

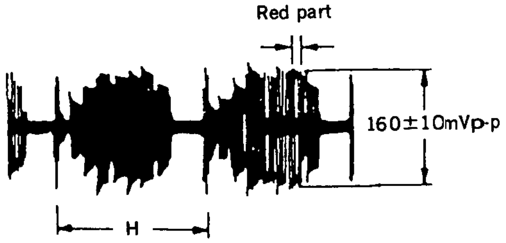

Red part
160±10mVp-p
H

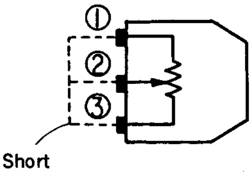
Fig.8-20.

8-6. LCD SYSTEM ADJUSTMENT

Caution: If you touch the back light holder, you may receive an electric shock. Be careful to perform the adjustment.

[Preparation]

1) The adjustment except for 「white balance adjustment」 and 「V COM DC adjustment」, the back light unit is not required. Remove it and perform the adjustment.
2) Set the VR as follows if there is no special direction.
   - BRIGHT (RV004)
     ·········Set the mechanical center position and short among pin ①,② and ③.



   - COLOR (RV001)
     ·········The position where the voltage of IC002 (57) of the RG-22 board is 1.5±0.1Vdc.

[Video input signal for adjustment]

Input the color bar signal, which the chroma signal and the burst signal are turned off, to the video input terminal as a video input signal for adjustment. Check with the CN001 pin ㉔ of the RG-22 board.

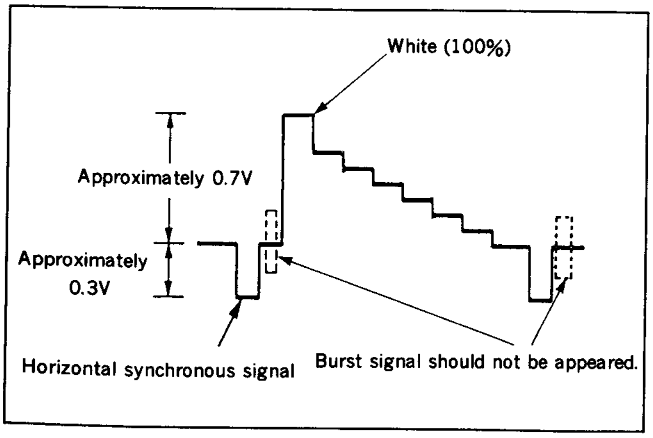

White (100%)
Approximately 0.7V
Approximately 0.3V
Horizontal synchronous signal
Burst signal should not be appeared.

Fig.8-21. Color bar signal which the chroma signal and the burst signal are turned off

8-6-1. Contrast Adjustment (RG-22 board)

Mode	POWER ON
Signal	Color bar which the chroma signal and the burst signal are turned off.
Measurement point	CN002 Pin ⑨
Measuring instrument	Oscilloscope
Adjustment element	RV006
Specified value	3.0±0.1V

[Adjustment Method]

1) Adjust with RV006 so that the voltage between white (100%) and the pedestal is 3.0±0.1V.

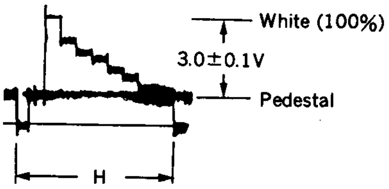

White (100%)
3.0±0.1V
Pedestal
H

Fig.8-22.

8-6-2. R Gain Adjustment (RG-22 board)

Mode	POWER ON
Signal	Color bar which the chroma signal and the burst signal are turned off
Measurement point	CN002 Pin ⑩
Measuring instrument	Oscilloscope
Adjustment element	RV005
Specified value	3.0±0.1V

[Adjustment Method]

1) Adjust with RV005 so that the voltage between white (100%) and the pedestal is 3.0±0.1V.

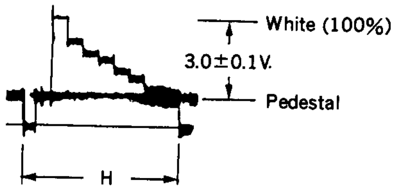

White (100%)
3.0±0.1V.
Pedestal
H

Fig. 8-23.

8-6-3. B Gain Adjustment (RG-22 board)

Mode	POWER ON
Signal	Color bar which the chroma signal and the burst signal are tured off
Measurement point	CN002 Pin ⑪
Measuring instrument	Oscilloscope
Adjustment element	RV003
Specified value	2.6±0.1V

[Adjustment Method]

1) Adjust with RV003 so that the voltage between white (100%) and the pedestal is 2.6±0.1V.

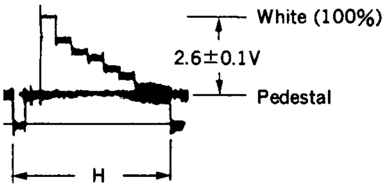


Fig. 8-24.

8-6-4. Sub Bright Adjustment (RG-22 board)

Mode	POWER ON
Signal	Color bar which the chroma signal and the burst signal are turned off
Measurement point	CN002 Pin ⑨, Pin ⑩ and Pin⑪ (G) (R) (B)
Measuring instrument	Oscilloscope (DC range)
Adjustment element	RV010, RV007 and RV008
Specified value	−3.4±0.1V

[Connection]

1) Install the LCD unit and perform the adjustment.

[Adjustment Method]

1) Adjust with RV009 so that the DC level of the pedestal part of the positive polarity G signal is −3.4±0.1Vdc.
2) Adjust with RV007 so that the DC level of the pedestal part of the positive polarity R signal is −3.4±0.1Vdc.
3) Adjust with RV008 so that the DC level of the pedestal part of the positive polarity B signal is −3.4±0.1Vdc.

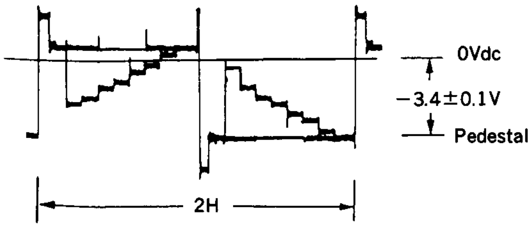


Fig.8-25.

8-6-5. fsc Adjustment (RG-22 board)

Mode	POWER ON
Signal	Video signal which the chroma signal, the burst signal and the Y signal are turned off.(Video signal with only synchronous signal)
Measurement point	IC002 Pin ④
Measuring instrument	Frequency counter
Adjustment element	CV002
Specified value	4433619±300Hz

Note : Connect the frequency counter through the buffer amplifier (oscilloscope, etc) with high impedance (1MΩ or more) and low capacity.

[Adjustment Method]

1) Adjust with CV002 so that the fsc frequency is 4433619± 300Hz.

8-6-6. White Balance Adjustment (RG-22 board)

Mode	POWER ON
Signal	Color bar which the chroma signal and the burst signal are turned off.
Measurement point	Check on the LCD screen
Measuring instrument	
Adjustment element	RV003 (B gain) RV005 (R gain)
Specified value	Screen should not be colored.

[Connection]

1) Perform the adjustment connecting the LCD unit and the back light.

[Adjustment Method]

1) Check that the LCD screen is not colored. If the screen is colored, adjust with RV003 (B gain) and RV005 (R gain).

8-6-7. V COM DC Adjustment (RG-22 board)

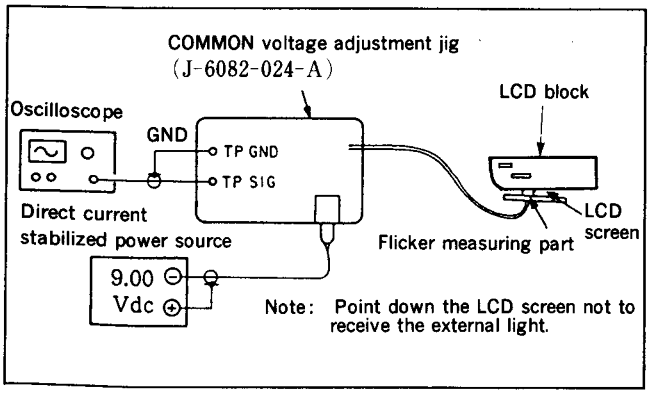
Mode	POWER ON
Signal	Color bar which the chroma signal and the burst signal are turned off
Measurement point	LCD screen
Measuring instrument	Oscilloscope
Adjustment element	V COM DC VR on the LCD unit
Specified value	The amplitude of the flicker waveform is the minimum.

Note : Perform the 「V COM DC adjustment」 with assembling the LCD block.
Take care that the external light should not enter into the light receiving part of the COMMON voltage adjustment jig.

[Adjustment Method]

1) Expose the light receiving part of the COMMON voltage adjustment jig to the LCD screen. (Point down the LCD screen not to receive the external light.)
2) Connect the oscilloscope with the COMMON voltage adjustment jig.
3) Turn V COM DC VR and check that the flicker waveform as shown in the fig.8-26 is output.
(When the flicker waveform is not output, check the exposing method of the light receiving part and the external light condition, and check with turning the BRIGHT control.)
4) Minimize the flicker waveform amplitude with V COM DC VR.

Note : Turn V COM DC VR slowly because it takes long time to respond to LCD.
The minimum point of the flicker waveform amplitude is nearly coincided with the maximum point of the contrast.


COMMON voltage adjustment jig
(J-6082-024-A)
LCD block
Oscilloscope
GND
TP GND
TP SIG
Direct current
stabilized power source
9.00
Vdc
Flicker measuring part
LCD
screen

Note: Point down the LCD screen not to receive the external light.

Fig.8-26

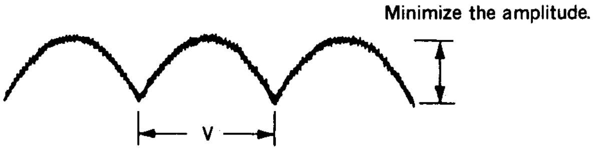

Minimize the amplitude.
V

Fig.8-27.

8-6-8. Character Position Adjustment (RG-22 board)

Mode	POWER ON
Signal	Color bar
Measurement point	LCD screen
Measuring instrument	
Adjustment element	CV801
Specified value	Fig.8-28.

[Adjustment Method]

1) Press the CLOCK SET button of the LCD block and check that black frame and "0 : 00" display on the LCD screen.
2) Make black frame on the right end of the LCD screen with CV801 and adjust so that it dissapears.
3) Press twice the NEXT button of the LCD block and turn off the black frame on the LCD screen. (It takes approximately five seconds to turn off the frame.)

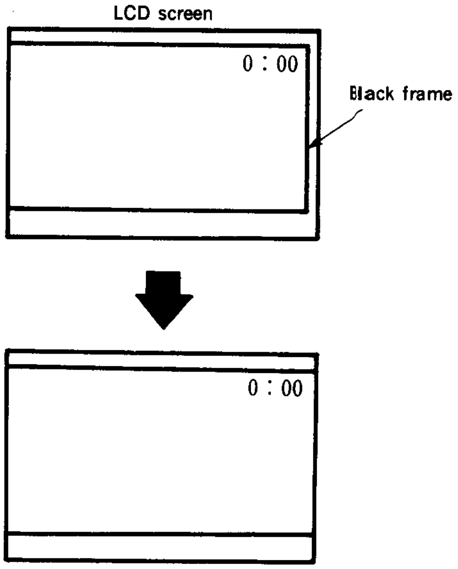

LCD screen
0 : 00
Black frame
0 : 00

Fig.8-28.

8-7. TUNER SYSTEM ADJUSTMENT

8-7-1. RF AGC Adjustment (TU-126 board)

Mode	E-E
Signal	Broadcast TV signal
Adjustment element	RV101

[Adjustment Method]

1) Connect the monitor TV.
2) Adjust the monitor TV to the most proper contrast and receive the broadcast TV signal.
3) Turn RV101 to show the snow noise.
4) Turn RV101 in the reverse direction, and set to the point that the snow noise disappears.
5) Receive each channel and check that there is no beat by the cross modulation, picture distortion and snow noise.

8-8. AUDIO SYSTEM ADJUSTMENT

- Adjust using the color bar signal as the video signal input.

[Connection of the measuring instruments for audio]

Connect the audio system measuring instruements as shown in the following figure as well as the video system measuring instruments. Set the power switch to the ｢VTR｣ side if there is no special direction.

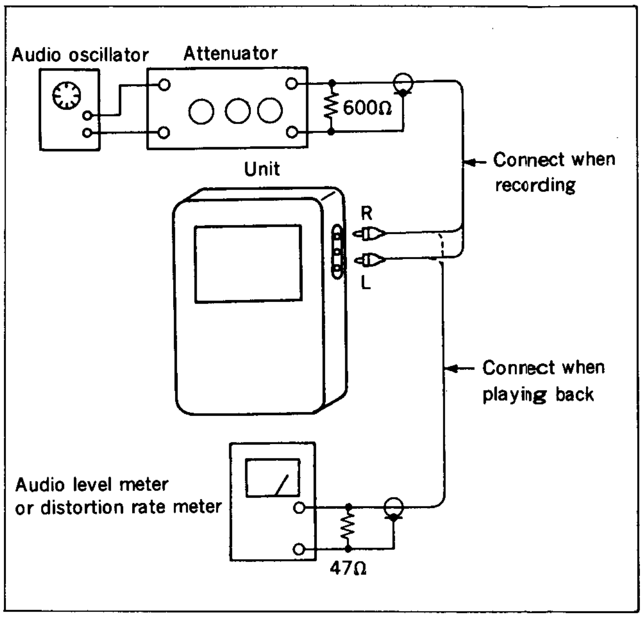

Audio oscillator
Attenuator
600Ω
Unit
R
L
Connect when recording
Connect when playing back
Audio level meter or distortion rate meter
47Ω

Fig.8-29.

[VIDEO/AUDIO terminal of the unit]

The VIDEO and AUDIO (L/R) terminal has a function both input and output. The operation as the input terminal or as the output terminal is automatically selected according to the operation mode of the unit.

When connecting with other instruements, perform according to input-ouput of the terminal.

Operation mode of the unit and the input-output automatic selection of the terminal

Input mode selected with the INPUT SELECT button	The case that the unit is stopped or the recording mode is set	The case that the unit is set to the playback mode
TUNER (Television screen)	Output	Output
LINE*	Input	Output
CAMERA	Output	Output

*When the LINE is selected with the INPUT SELECT button, the display of INPUT and OUTPUT is shown.

[Setting of the switches]

Set the following mode if there is no special direction.

- SP/LP button ······SP
- INPUT SELECT button ······LINE
- AUTO STEREO switch ······ON
- LINE AUDIO button······ST
- AUDIO MONITOR button······(S) and MAIN

[Notes]

- When the sound signal is input, input the same signal to both L and R channel if there is no special direction.
- Be sure to insert a plug (shorting plug or dummy plug) to the AUDIO R input-output terminal if there is no special direction. When a plug is not inserted, the monaural mode is set and the proper adjustment is not performed.
  (Monaural mode)
  At recording······REC AFM RF 1.7MHz carrier is not ouput.
  At playing back ······L+R signal is output from the AUDIO L input-output terminal.

[Adjustment Procedures]

1.5MHz carrier frequency adjustment
1.7MHz carrier frequency adjustment
E-E output level check
1.5MHz carrier level check
1.7MHz carrier level adjustment
1.5MHz deviation adjustment
1.7MHz deviation adjustment note)
Recording matrix L+R adjustment
Recording matrix L−R adjustment
Bilingual mode adjustment
Playback bilingual mode detect adjustment note)
Playback matrix adjustment
Total level characteristic separation check
Total distortion rate check

Note) The adjustment method of the 1.7 MHz deviation adjustment and Playback bilingual mode detect adjustment are shown later.

8-8-1. 1.5MHz Carrier Frequency Adjustment (AU-98 board)

Mode	Recording
Signal	No signal
Mesurement point	IC101 Pin ⑬
Meauring instrument	Frequency counter
Adjustment element	RV102
Specified value	1.50±0.02MHz

Note : Use the 10 : 1 probe for connecting the frequency counter.

[Connection]

1) Short with the jumper wire between IC113 pin ㉕ (PLL PB) and CN101 Pin ① (SW 5V).

[Adjustment Method]

1) Adjust with RV102 to 1.50±0.02MHz.
2) Keep the jumper wire for connecting and perform the 1.7MHz carrier frequency adjustment.

8-8-2. 1.7MHz Carrier Frequency Adjustment (AU-98 board)

Mode	Recording
Signal	No signal
Mesurement point	IC201 Pin ⑬
Meauring instrument	Frequency counter
Adjustment element	RV202
Specified value	1.70±0.01MHz

Note : Use the 10 : 1 probe for connecting the frequency counter.

[Connection]

1) Short with the jumper wire between IC113 pin ㉕ (PLL PB) and CN101 Pin ① (SW 5V).

[Adjustment Method]

1) Adjust with RV202 to 1.70±0.01MHz.
2) After the adjustment, disconnect the jumper wire.

8-8-3. E-E Output Level Check

Mode	Camera recording
Signal	CN-6P board J601 Pin ⑤ [Pin ⑨] 400Hz, −15dBs
Measurement point	AUDIO L [R] Input-output terminal
Measuring instrument	Audio level meter
Specified value	−7.5±2dBs

[Checking Method]

1) Check that the 400Hz signal is −7.5±2dBs.

8-8-4. 1.5MHz Carrier Level Check (AU-98 board)

Mode	Recording
Signal	No signal (Both L and R 600Ωterminal)
Measurement point	CN102 Pin ③
Measuring instrument	Oscilloscope
Specified value	128±10mVp-p

[Preparation]

1) Terminate both L and R AUDIO terminals at 600Ω. The pin plug should not be inserted to the R terminal. (For setting to the monaural mode)

[Checking Method]

1) Check that the 1.5MHz REC AFM RF signal level is 128±10mVp-p. (Read the center level of the luminescent width.)

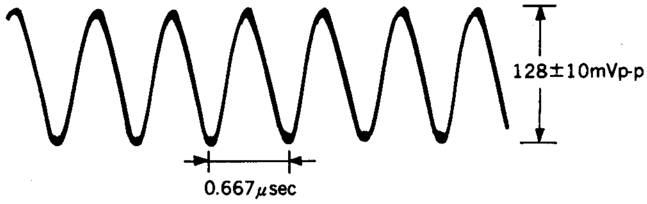


Fig.8-30.

8-8-5. 1.7MHz Carrier Level Adjustment (AU-98 board)

Mode	Recording
Signal	No signal (Both L and R 600Ωterminal)
Measurement point	CN102 Pin ③
Measuring instruement	Oscilloscope
Adjustment element	RV203
Specified value	(1.5MHz carrier level)−(1.7MHz carrier level)=27±10mV

[Preparation]

1) Terminate both L and R AUDIO terminals at 600Ω. Check that the dummy plug is inserted to the R terminal. (For setting the stereo mode)

[Adjustment Method]

1) Connect the capacitor of 0.01μF between IC201 pin ⑭ and GND.
2) Measure the 1.5MHz carrier level by the oscilloscope and write it down.
3) Disconnect the capacitor connected in the procedure 1).
4) Connect the capacitor of 0.01μF between IC101 Pin ⑭ and GND.
5) Measure the 1.7MHz carrier level by the oscilloscope and adjust with RV203 to (1.5MHz carrier level)−(1.7MHz carrier level)=27±10mV.
6) Disconnect the capacitor connected in the procedure 4).

8-8-6. 1.5MHz Deviation Adjustment (AU-98 board)

Mode	Playback
Signal	Alignment tape: for operation check (WR5-4CSP)
Measurement point	CN101 Pin ⑤
Measuring instruement	Oscilloscope
Adjustment element	RV101
Specified value	925±21mVp-p (−7.5±0.2dBs)

[Adjustment Method]

1) Adjust with RV101 so that the 400Hz signal level is 925±21mVp-p.

8-8-7. Recording Matrix L+R Adjustment (AU-98 board)

Mode	Recording
Signal	1. 400Hz, −7.5dBs AUDIO L input-output terminal Input 2. 400Hz, −7.5dBs AUDIO R input-output terminal Input
Measurement point	IC104 Pin ①
Measuring instruement	Oscilloscope
Adjusment element	RV401
Specified value	The level difference at the L terminal input and the R terminal input is 0±5mVp-p.

Note: Measure the signal level after passing one minute or more from the signal input.

[Adjustment Method]

1) Input 400Hz and −7.5dBs signal to the AUDIO L input-output terminal. (Insert the shorting plug to the R terminal.)
2) Read the signal level of IC104 Pin ① and write it down.
3) Input 400Hz and −7.5dBs signal to the AUDIO R input-output terminal.
   (Insert the shorting plug to the L terminal.)
4) Adjust with RV401 so that the signal level of IC104 Pin ① is ±5mVp-p measured in the procedure 2).

8-8-8. Recording Matrix L−R Adjustment (AU-98 board)

Mode	Recording
Signal	400Hz, −7.5dBs Input to the both L and R terinal of AUDIO input- output terminal.
Measurement point	IC106 Pin ①
Measuring instrument	Oscilloscope
Adjustment element	RV402
Specified value	0±10mVp-p

Note: Use the 1 : 1 probe.

[Adjustment Method]

1) Adjust with RV402 so that the signal level of IC106 Pin ① is 0±10mVp-p.

8-8-9. Bilingual Mode Adjustment (AU-98 board)

Mode	Recording
Signal	No signal (Both L and R 600Ω terminal)
Measurement point	CN102 Pin ③
Measuring instrument	Oscilloscope
Adjustment element	RV103
Specified value	A : B=100:250 $^{+30}_{-25}$

[Preparation]

1) Terminate both L and R AUDIO terminals at 600Ω, Check that the dummy plug is inserted to the R terminal. (For setting the stereo mode.)

[Adjustment Method]

1) Adjust with RV103 to A : B=100 : 250 $^{+30}_{-25}$.

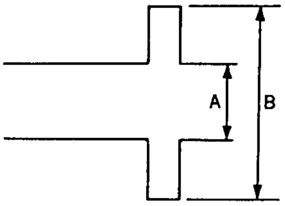


Fig.8-31.

8-8-10. Playback Matrix Adjustment (AU-98 board)

Mode	Playback
Signal	Alignment tape: for AFM stereo operation check (WR5-9CS)
Measurement point	CN101 Pin ⑤ and Pin ⑦
Measuring instruement	Oscilloscope
Adjustment element	RV204
Specified value	The distortion of the 400Hz output waveform of CN101 pin ⑤ and the 1kHz output waveform of pin ⑦ is the minimum.

[Adjustment Method]

1) Adjust with RV204 so that the distortion of the 400Hz output waveform of CN101 pin ⑤ and the 1kHz output waveform of pin ⑦ is the minimum.

8-8-11. Total Level Characteristic Separation Check

Mode	Self playback
Signal	400Hz, −7.5dBs: AUDIO L [R] input-output terminal No signal (Insert a shorting plug.): AUDIO R [L] input-output terminal
Measurement point	AUDIO L [R] input-output terminal
Measuring instrument	Audio level meter
Specified value	Signal level: −7.5±2dBs Cross talk level: −25.0dBs or less

Note : Be sure to insert the dummy plug to the R terminal when measuring the L side playback output level.

[Checking Method]

1) Record the signal.
2) Connect the audio level meter to the AUDIO L [R] input-output terminal.
3) Play back the recorded part and check that the L [R] output signal level is −7.5±2dBs.
4) Check that the R [L] output cross talk level is −25.0dBs or less.

8-8-12. Total Distortion Rate Check

Mode	Self playback
Signal	400Hz, −7.5dBs Input both L and R AUDIO input-output terminals
Measurement point	AUDIO L [R] input-output terminal
Measuring instrument	Distortion Rate Meter
Specified value	1.2% or less

Note : Be sure to insert the dummy plug to the R terminal when measuring the L side playback distortion rate.

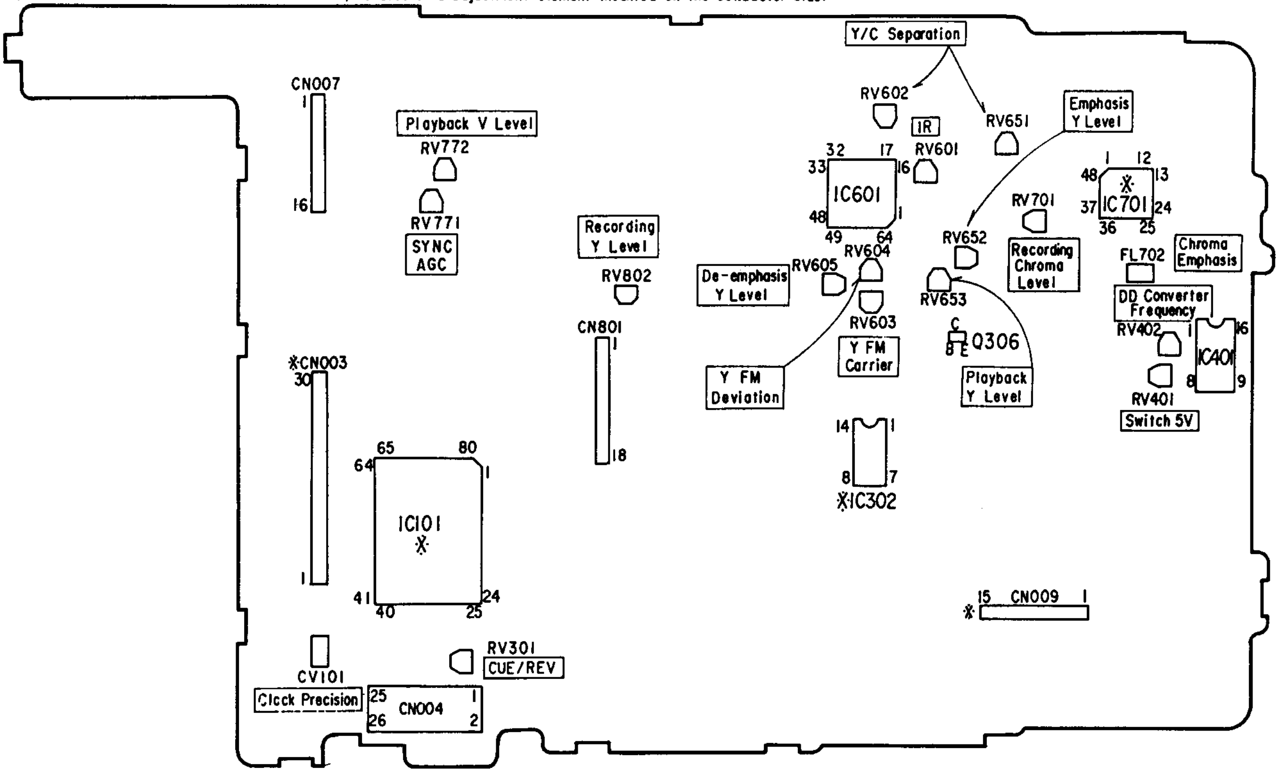
[Checking Method]

1) Record the signal.
2) Connect the distrotion rate meter to the AUDIO L [R] input-output terminal.
3) Play back the recorded part and check that the distortsion rate of the L [R] output is 1.2% or less.

8-9. ADJUSTING PARTS LOCATION DIAGRAM

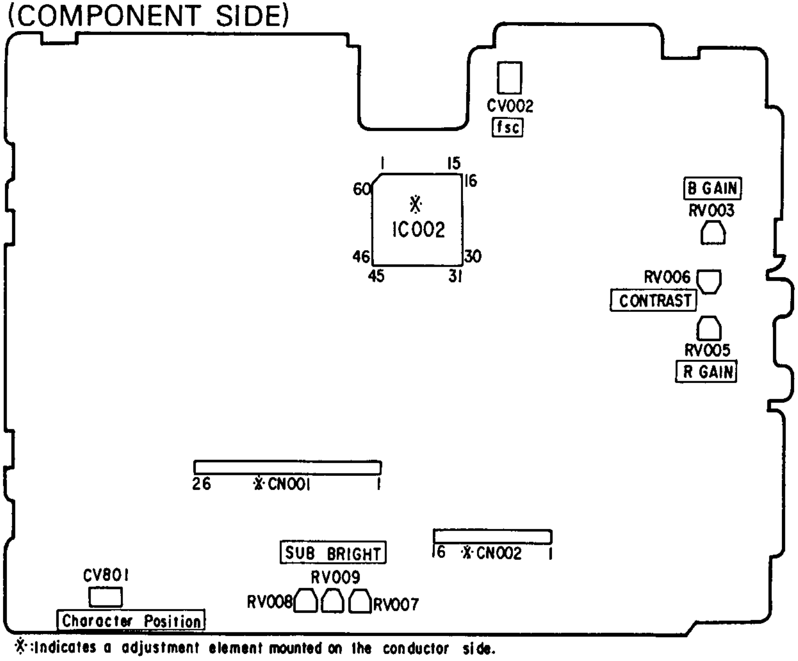
SV-66 BOARD
(COMPONENT SIDE)

※: Indicates a adjustment element mounted on the conductor side.



Y/C Separation
RV602
IR
RV651
Emphasis Y Level
CN007
Playback V Level
RV772
RV771
SYNC AGC
RV601
IC601
※ IC701
RV701
Recording Chroma Level
Chroma Emphasis
FL702
DD Converter Frequency
RV402
IC401
RV401
Switch 5V
Recording Y Level
RV802
CN801
De-emphasis Y Level
RV605
RV604
RV603
Y FM Carrier
Y FM Deviation
RV652
RV653
Q306
Playback Y Level
※CN003
IC101 ※
※IC302
CN009 ※
CV101
Clock Precision
CN004
RV301
CUE/REV

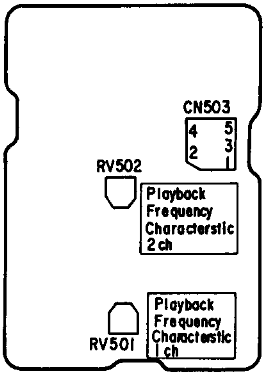
RG-22 BOARD
(COMPONENT SIDE)



CV002
fsc
※ IC002
B GAIN
RV003
RV006
CONTRAST
RV005
R GAIN
26 ※CN001 1
6 ※CN002 1
SUB BRIGHT
RV009
RV008
RV007
CV801
Character Position

※: Indicates a adjustment element mounted on the conductor side.

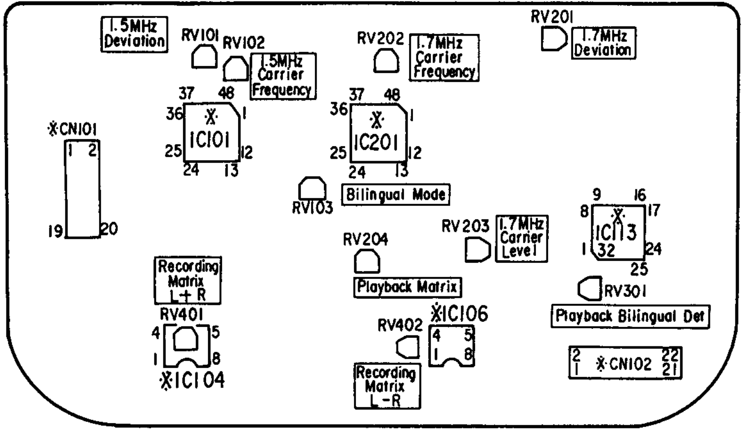
RP-105 BOARD
(COMPONENT SIDE)



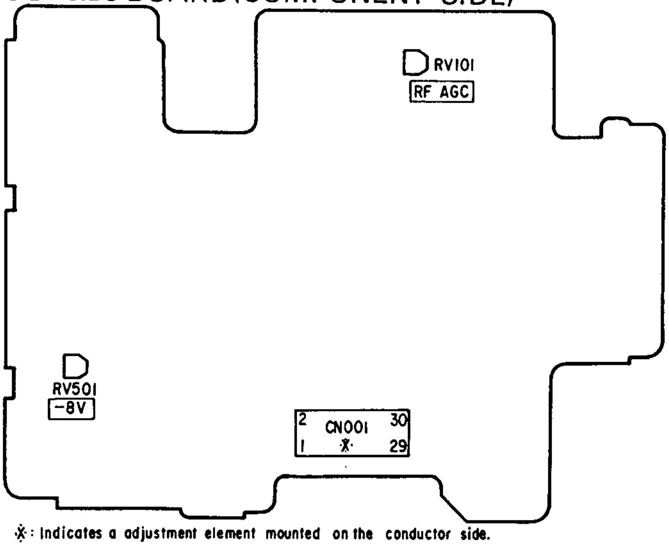
CN503
RV502
Playback Frequency Characterstic 2ch
RV501
Playback Frequency Characterstic 1ch

AU-98 BOARD
(COMPONENT SIDE)

※: Indicates a adjustment element mounted the conductor side.

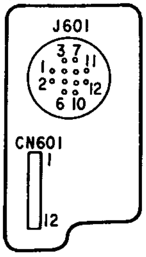

1.5MHz Deviation
RV101
RV102
1.5MHz Carrier Frequency
RV202
1.7MHz Carrier Frequency
RV201
1.7MHz Deviation
※CN101
1
2
19
20
37
48
36
※
1
IC101
25
12
24
13
37
48
36
※
1
IC201
25
12
24
13
RV103
Bilingual Mode
9
16
8
※
17
IC113
1
32
24
25
RV204
RV203
1.7MHz Carrier Level
Playback Matrix
RV301
Playback Bilingual Det
Recording Matrix L+R
RV401
4
5
1
8
※IC104
RV402
※IC106
4
5
1
8
Recording Matrix L-R
2
1
※CN102
22
21

TU-126 BOARD(COMPONENT SIDE)


RV101
RF AGC
RV501
-8V
2
1
CN001
※
30
29

※: Indicates a adjustment element mounted on the conductor side.

CN-6P BOARD
(COMPONENT SIDE)

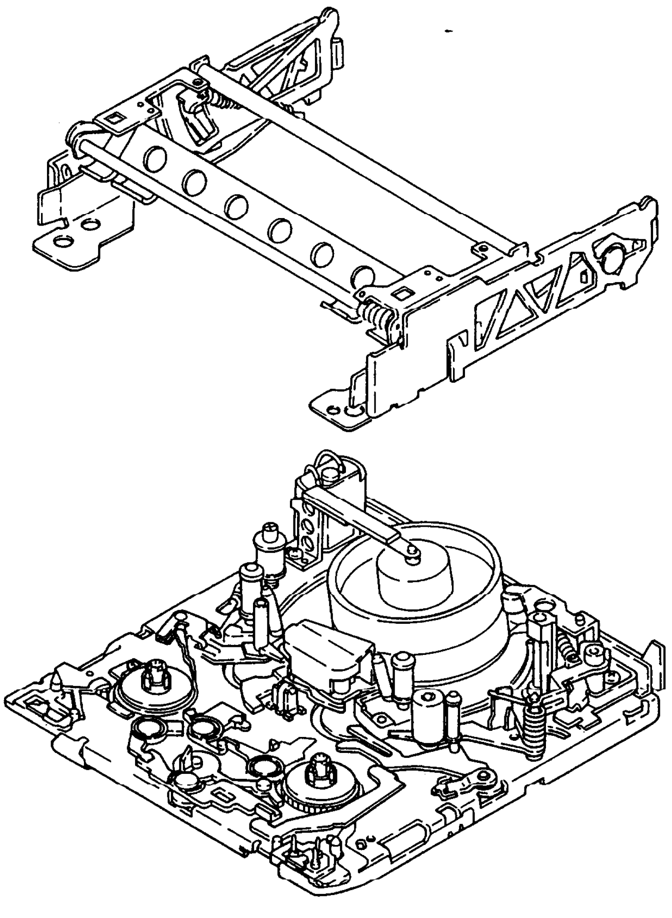

J601
3
7
1
11
2
12
6
10
CN601
1
12

mm Video MECHANICAL ADJUSTMENT MANUAL III

U MECHANISM

Video 8

Please use in conjunction with the SERVICE MANUAL.



8 MECHANISM DECK

SONY®

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  4-8-2. Rising Check 32
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1. PREPARATIONS FOR MECHANICAL BLOCK CHECK, ADJUSTMENT AND REPLACEMENT

Note: For removal of the cabinet, the boards, the cassette compartment, etc., refer to the service guides.

1-1. OPERATION WITHOUT CASSETTE COMPARTMENT ASSEMBLY AND TAPE

Note: The unit will not work if exposed to a strong light.

1-1-1. How to Trigger the Loading Operation (See Fig. 1-1.)

1) Supply power to the unit after removing the cabinet, the camera block, the cassette compartment assembly, etc., as indicated in the service guides. (This will enable operation of the mechanical deck.)
2) Cover the LED assembly with an opaque cap, etc. ❶.
3) Attach a piece of tape to the RECOG switch ❷ so that the pin is held down.
4) Push the EJECT lever ❸ in the direction of the arrow Ⓐ.

1-1-2. Setting the Playback Mode (See Fig. 1-1.)

1) Follow the procedures in section 1-1-1. above.
2) Put the rubber band ❹ around the S and T reels.
3) Press the PLAY switch of unit, then push the tension regulator arm assembly ❺ in the direction of the arrow Ⓑ when the T reel starts to rotate (the tension regulator band will be released, and the S reel will start rotating).
4) To stop operation, press the STOP switch.

1-1-3. Eject Operation (See Fig. 1-1.)

1) To eject, turn the EJECT switch on.

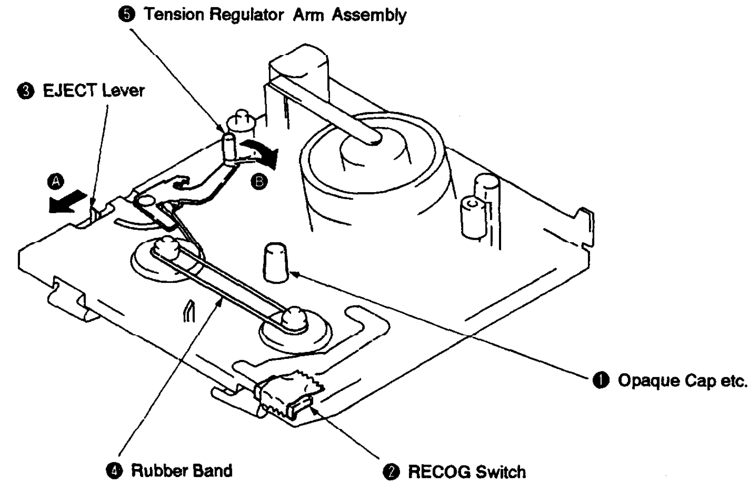


Fig. 1-1.

1-2. THE MODE SELECTOR

1-2-1. Name of Each Part (external) (See Fig. 1-2.)

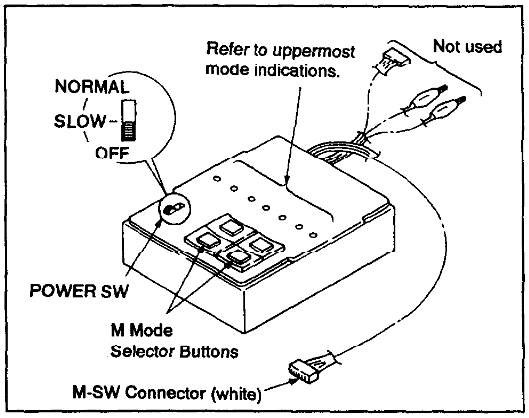

Refer to uppermost mode indications.
Not used
NORMAL
SLOW
OFF
POWER SW
M Mode Selector Buttons
M-SW Connector (white)

Fig. 1-2.

1-2-2. Connections (See Fig. 1-3.)

1) Mount the MODE SELECTOR III panel (Ref. No. J-9) ❶ onto the mode selector.
2) Attach the conversion connector (Ref. No. J-8) ❸ of MODE SELECTOR III to the 6-pin connector (white) ❷ of the mode selector M-SW.
3) Remove the FP-89 flexible board ❺ from the flexible connector ❹.
4) Attach the FP-89 flexible board ❺ to the flexible connector ❻ of the MODE SELECTOR III conversion connector ❸, then attach the 2-pin connector (white) ❽ of the loading motor to the 2-pin connector (white) ❼.

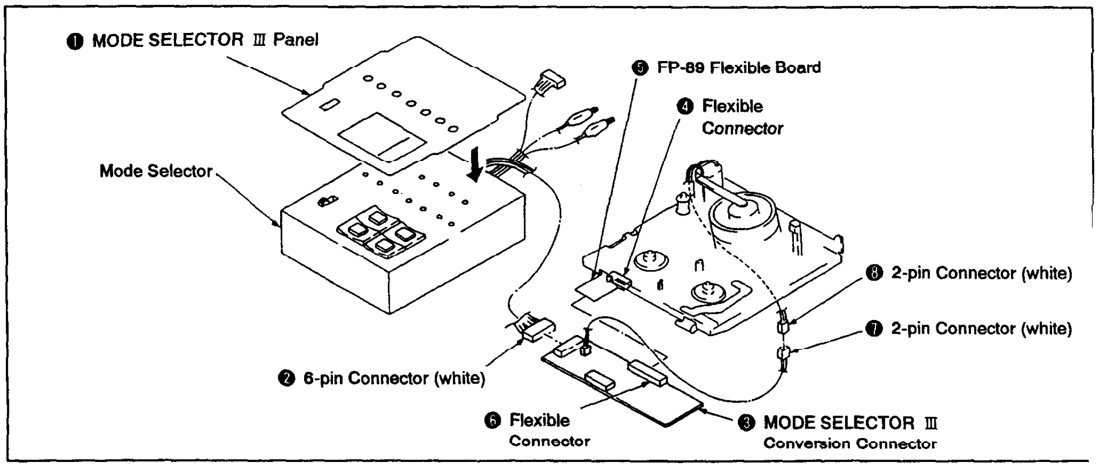

❶ MODE SELECTOR Ⅲ Panel
Mode Selector
❺ FP-89 Flexible Board
❹ Flexible Connector
❽ 2-pin Connector (white)
❼ 2-pin Connector (white)
❷ 6-pin Connector (white)
❻ Flexible Connector
❸ MODE SELECTOR Ⅲ Conversion Connector

Fig. 1-3.

1-2-3. Handling (See Figs. 1-2. and 1-4.)

- Use only the M mode selector buttons.
- Refer to mode indications on the uppermost part of the MODE SELECTOR III panel.
- If the right M mode selector button is kept pressed, the lit indication will change in the order of EJECT → (IA) → ULD → (IB) → STOP → (IC) → FWD.
- To change modes in the reverse direction (from FWD to EJECT), press the left selector button.

Note: For this U mechanism, the uppermost indicators on the MODE SELECTOR III panel are used. The IA, IB and IC indications light up during mode changes.

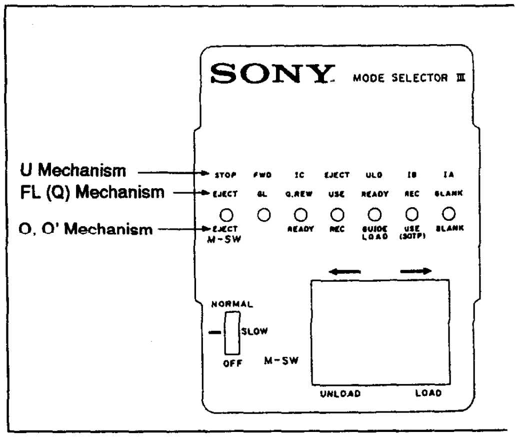

SONY MODE SELECTOR Ⅲ
U Mechanism
FL (Q) Mechanism
O, O' Mechanism
STOP
FWD
IC
EJECT
ULD
IB
IA
EJECT
SL
Q.REW
USE
READY
REC
BLANK
EJECT
M-SW
READY
REC
GUIDE LOAD
USE (SOTP)
BLANK
NORMAL
SLOW
OFF
M-SW
UNLOAD
LOAD

Fig. 1-4.

2. PERIODICAL CHECK AND MAINTENANCE (See Fig. 2-1.)

The following periodical check and maintenance procedures are necessary to ensure proper operation and to protect the tapes as well as the unit, and the following maintenance procedures must be always carried out after repairing regardless of how long the unit has been used.

2-1. ROTARY DRUM ASSEMBLY CLEANING

1) While pressing a piece of chamois leather (Ref. No. J-2) moistened in cleaning fluid (Ref. No. J-1) lightly against the rotary drum, turn the rotary upper drum slowly counter-clockwise with your fingers.

Note: Do not drive the drum with the motor, and do not turn it clockwise.
Do not move the chamois leather vertically against the head tip; this can damage the head tip. Strictly follow the cleaning instructions above.

2-2. TAPE PATH CLEANING

1) Set the cassette compartment assembly to the eject state, or remove it. Then clean the tape path (guides No. 1 to 7, capstan shaft, pinch rollers) with a piece of chamois leather moistened in cleaning fluid (See Fig. 2-1).

2-3. DRIVE SYSTEM CLEANING

1) Clean the drive system (timing belt, reel table surface) with a piece of cloth moistened in cleaning fluid.

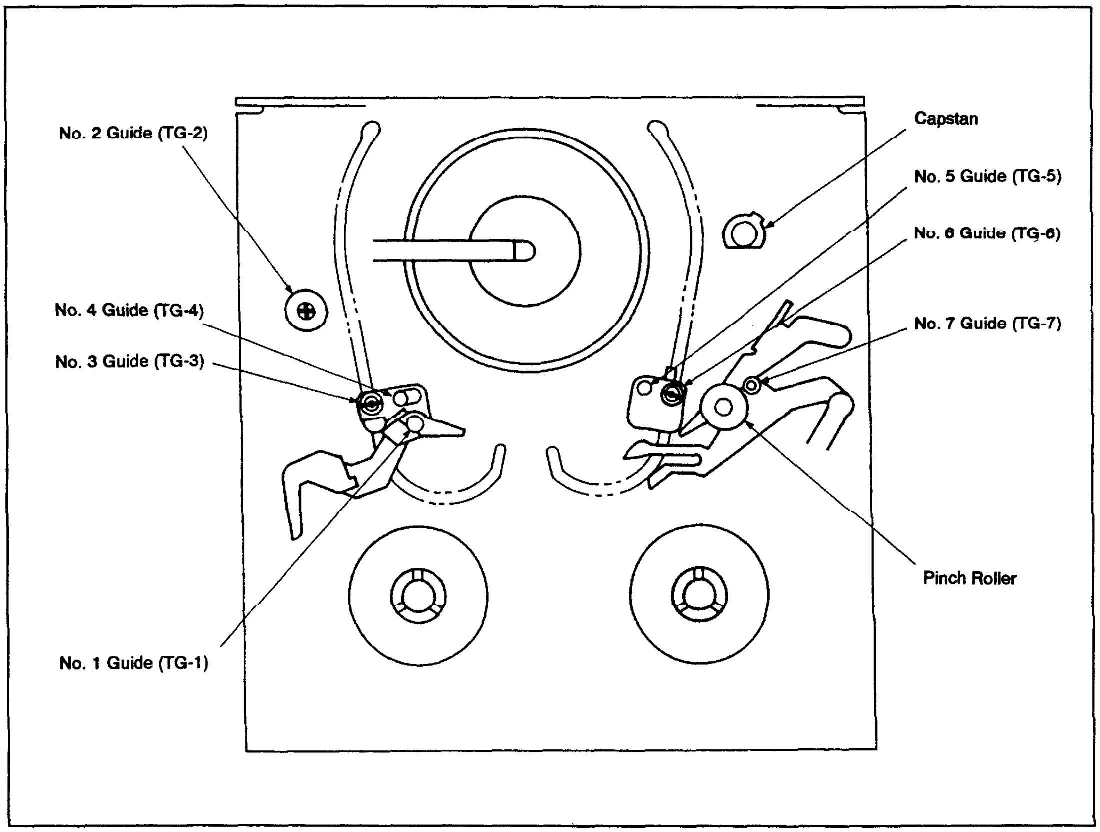


Fig. 2-1.

2-4. PERIODICAL CHECK ITEMS

○Cleaning ◎Lubrication ☆Check

Maintenance and Check Item		Operation time (H)										Remarks
		500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	
Cleaning and Demagnetizing	Tape path surfaces Cleaning	○	○	○	○	○	○	○	○	○	○	Do not oil.
	Rotary drum assembly cleaning and demagnetizing	○	○	○	○	○	○	○	○	○	○	Do not oil.
Drive System	Relay belt (short)	–	☆	–	☆	–	☆	–	☆	–	☆	3-728-866-01
	Relay belt (long)	–	☆	–	☆	–	☆	–	☆	–	☆	3-728-865-01
	Capstan shaft	–	◎	–	◎	–	◎	–	◎	–	◎	Take care that no oil gets on tape path surfaces.
	Idler pulley axle	–	◎	–	◎	–	◎	–	◎	–	◎	
	Loading motor	–	☆	–	☆	–	☆	–	☆	–	☆	1-541-612-11
Performance Check	Abnormal noise	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Back tension measurement	–	☆	–	☆	–	☆	–	☆	–	☆	
	Brake system	–	☆	–	☆	–	☆	–	☆	–	☆	
	FWD, RVS torque measurement	–	☆	–	☆	–	☆	–	☆	–	☆	

Notes: When overhauling the unit, perform parts replacement referring to the table above.

Regarding Oil:

- Always use the specified oil (using oil of different viscosity, etc. can cause troubles of several kinds).
  Specified oil: Part No. 7-661-018-01
  (Mitsubishi Diamond Oil Hydrofluid EP56)
- Be sure that no dirt is mixed in the oil to be used on axle bearings. Use of dirty oil can result in bearing wear and burning.
- By "one drop of oil" is meant the quantity of oil adhering to the end of a a 2mm-diameter rod as shown in Fig. 2-2.

On grease:

- Use the specified grease.
  Grease: Part No. 7-662-010-08
  (Sony grease SGL-701)

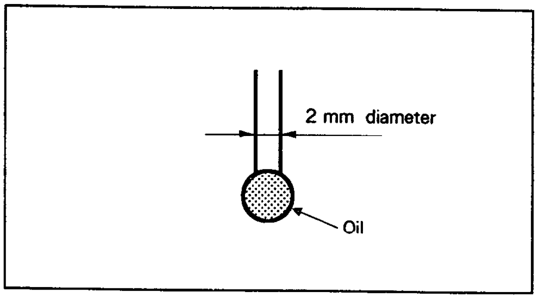


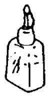
Fig. 2-2.

2-5. SERVICING TOOLS

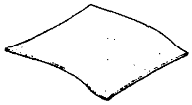
Ref. No.	Name	Part Code	Marking	Application, etc.
J-1	Cleaning fluid	Y-2031-001-0	–	
J-2	Chamois cloth	2-034-697-00	–	
J-3	Head demagnetizer	Commercially available	–	
J-4	Dental mirror Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-5	Alignment tape NTSC (WR5-1N) PAL (WR5-1C)	8-967-995-01 8-967-995-06		Tape path
J-6	FWD/RVS takeup torque cassette	J-6080-624-A	GD-2086	
J-7	Rotary drum jig	(Attached to the maintenance rotary upper drum)		
J-8	Mode selector III conversion connector	J-6082-021-A		General
J-9	Mode selector III panel	J-6082-023-A		General
J-10	Mode selector	J-6080-825-A		General
J-11	Hexagonal wrench detection (0.89 mm) or L wrench (0.89 mm)	7-700-766-01 7-700-736-06		Tape path
J-12	Sony grease (SGL-701)	7-662-010-08		

Other devices: Oscilloscope
Analog tester (20 kΩ)

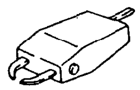
J-1



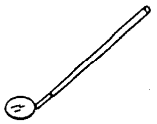
J-2



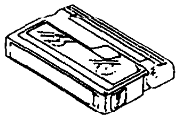
J-3



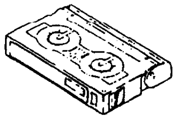
J-4



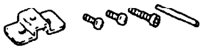
J-5



J-6

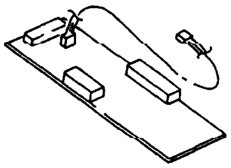


J-7

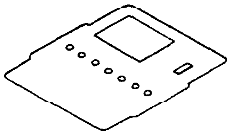


(Attached to the maintenance rotary upper drum)

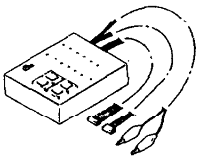
J-8



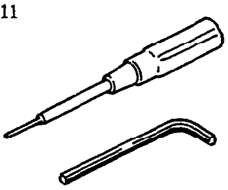
J-9



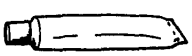
J-10



J-11



J-12



3. MECHANICAL BLOCK CHECK, ADJUSTMENT AND REPLACEMENT

Notes:
- Use the mode selector (Ref. No. J-10) for procedures in this chapter.
- Modes within a frame ☐ are those set by pressing the buttons of the mode selector.

3-1. HC ROLLER ASSEMBLY

1. Removal (See Fig. 3-1.)

1) Remove the screw ❶, then remove the HC roller assembly ❷.

2. Installation (See Fig. 3-1.)

1) Align the two dowels ❸ attached to the HC roller assembly ❷ with the two holes ❹ in the mechanism chassis.
2) Secure the HC roller assembly ❷ with the screw ❶.

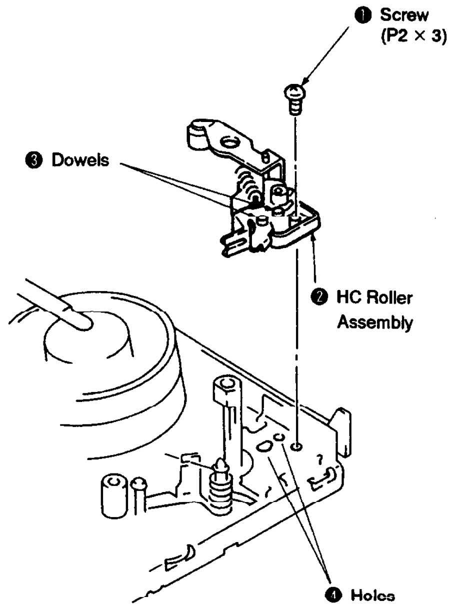

❶ Screw
(P2 × 3)
❸ Dowels
❷ HC Roller
Assembly
❹ Holes

Fig. 3-1.

3-2. GUIDE GUARD ASSEMBLY

1. Removal (See Fig. 3-2.)

Remove the screw ❶, then remove the guide guard assembly ❷.

2. Installation (See Fig. 3-2.)

1) Align the dowel ❸ attached to the guide guard assembly ❷ with the hole ❹.
2) Secure the guide guard assembly ❷ with the screw ❶.

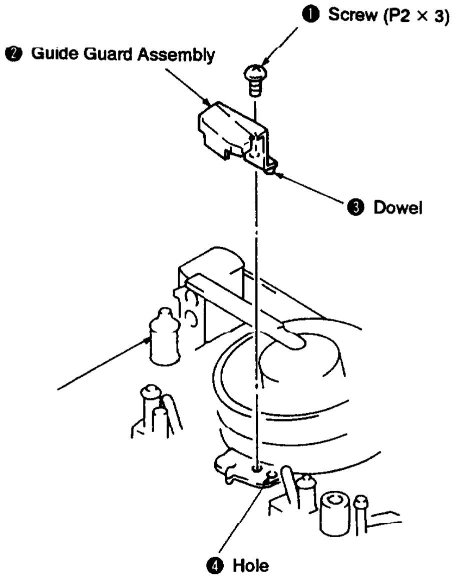

❶ Screw (P2 × 3)
❷ Guide Guard Assembly
❸ Dowel
❹ Hole

Fig. 3-2.

3-3. DC MOTOR (CAPSTAN MOTOR) ASSEMBLY

1. Removal (See Fig. 3-3.)

1) Set the ULD mode.
2) Turn the stopper ❶ in the direction of the arrow Ⓐ as far as it will go.
3) Remove the two screws ❷, then remove the DC motor ❸.

2. Installation (See Fig. 3-3.)

1) Align the two screwed dowels ❹ with the two holes ❺, then engage the toothed part ❻ with the connecting gear ❼.
2) Secure the DC motor assembly ❸ with the two screws ❷.
3) Turn the stopper ❶ in the direction of the arrow Ⓑ as far as it will go.

Note:
- When engaging the gears, take care not to damage their teeth.
- Do not leave any clearance between the DC motor ❸ and the chassis.
- Do not touch the capstan motor axle*, the oil seal* and the rotor*.

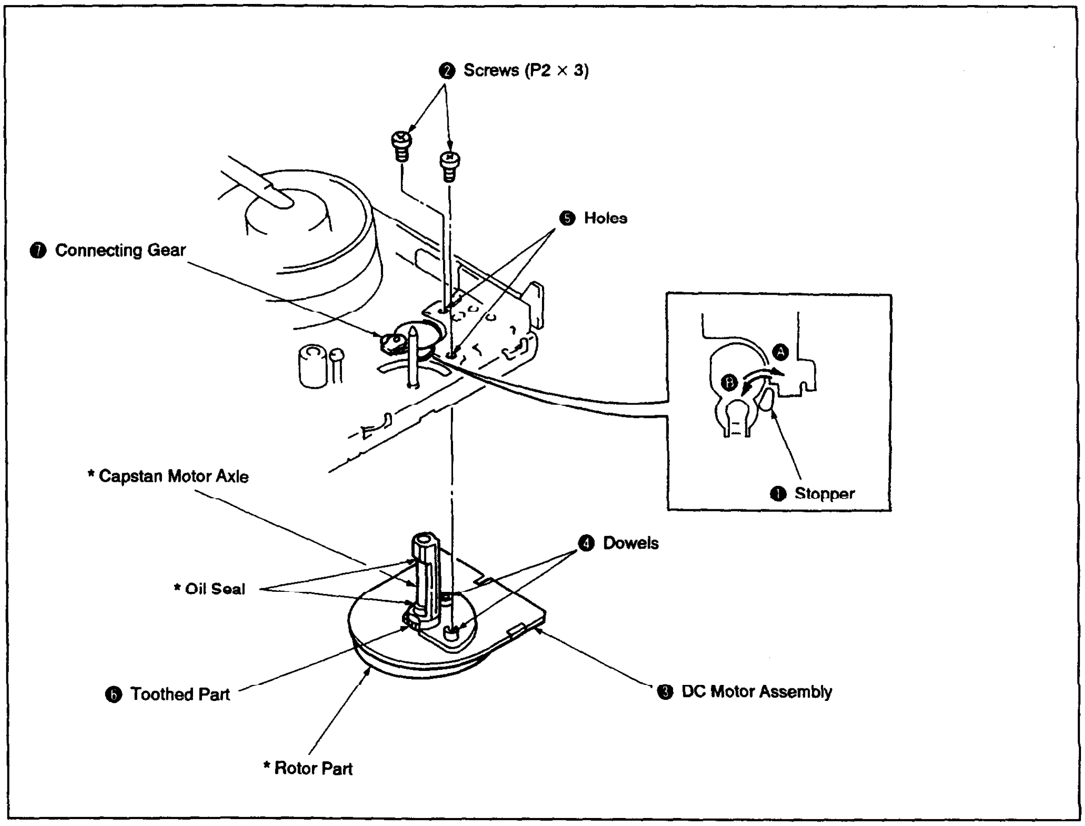

❷ Screws (P2 × 3)
❺ Holes
❼ Connecting Gear
Ⓐ
Ⓑ
❶ Stopper
* Capstan Motor Axle
❹ Dowels
* Oil Seal
❻ Toothed Part
❸ DC Motor Assembly
* Rotor Part

Fig. 3-3.

3-4. S BRAKE, T BRAKE

1. Removal (See Fig. 3-4.)

1) Remove the torsion coil spring (ST) ①.
2) Remove the axle holding pin ②, then remove the T brake ③.
3) Remove the axle holding pin ④, then remove the S brake ⑤.

2. Installation (See Fig. 3-4.)

1) While fitting the toothed part ⑥ into the notch ⑦, mount the S brake ⑤.
2) Insert the axle holding pin ④.
3) Insert the axle ⑧ to the S reel side of the brake release arm ⑨ so that the Ⓐ part comes closer to the drum than part Ⓑ, and mount the T brake ③.
4) Insert the axle holding pin ②.
5) Insert the torsion coil spring (ST) ① below the claw ⑪ of the axle ⑩, then hook it to two claws ⑫.

Note: Confirm that the claws of axle holding pins ② and ④ are not broken before assembling.

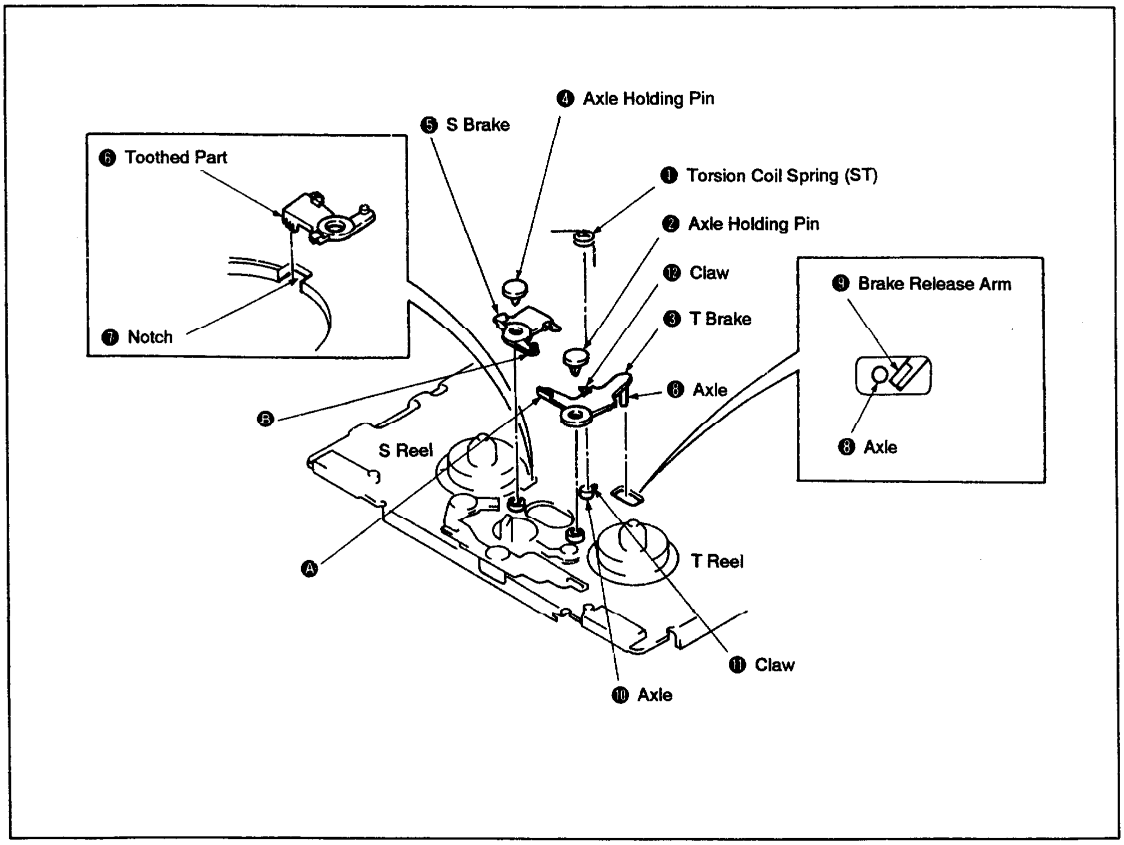

④ Axle Holding Pin
⑤ S Brake
⑥ Toothed Part
① Torsion Coil Spring (ST)
② Axle Holding Pin
⑫ Claw
⑨ Brake Release Arm
③ T Brake
⑦ Notch
⑧ Axle
Ⓑ
S Reel
⑧ Axle
Ⓐ
T Reel
⑪ Claw
⑩ Axle

Fig. 3-4.

3-5. LB BRAKE, AXLE HOLDING PINS

1. Removal (See Fig. 3-5.)

1) Remove the screw ❶, then remove the TL holding plate ❷.
2) Remove the axle holding pin ❸, then remove the LB brake ❹.
3) Remove the axle holding pin ❺, then remove the LB lever ❻.

2. Installation (See Fig. 3-5.)

1) Mount the LB lever ❻ matching it to pin ❼ of the LB gear, then secure it with the axle holding pin ❺.
2) Insert the pin ❽ into the notch ❾ of the LB lever ❻, then mount the LB brake ❹ while inserting the toothed part ❿ into the notch ⓫.
3) Insert the axle holding pin ❸.
4) Align the dowel ⓬ with the hole ⓭, then mount the TL holding plate and secure it with the screw ❶.

Note: Confirm that the claws of axle holding pins ❸ and ❺ are not broken before assembling.

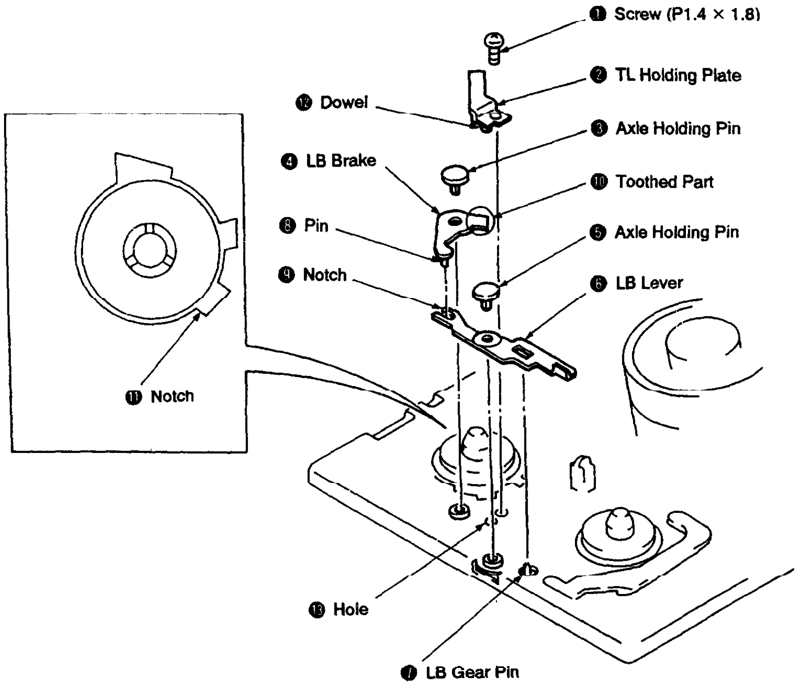

❶ Screw (P1.4 × 1.8)
❷ TL Holding Plate
⓬ Dowel
❸ Axle Holding Pin
❹ LB Brake
❿ Toothed Part
❽ Pin
❺ Axle Holding Pin
❾ Notch
❻ LB Lever
⓫ Notch
⓭ Hole
❼ LB Gear Pin

Fig. 3-5.

3-6. LB RELEASE ARM

1. Removal (See Fig. 3-6.)

1) While pushing the claw ① in the direction of the arrow, remove the LB release arm ②.

2. Installation (See Fig. 3-6.)

1) Fit the LB release arm ② to the axle ③, insert protrusions ⓐ, ⓑ, ⓒ, ⓓ into the three holes ④, then secure with the claw ①.

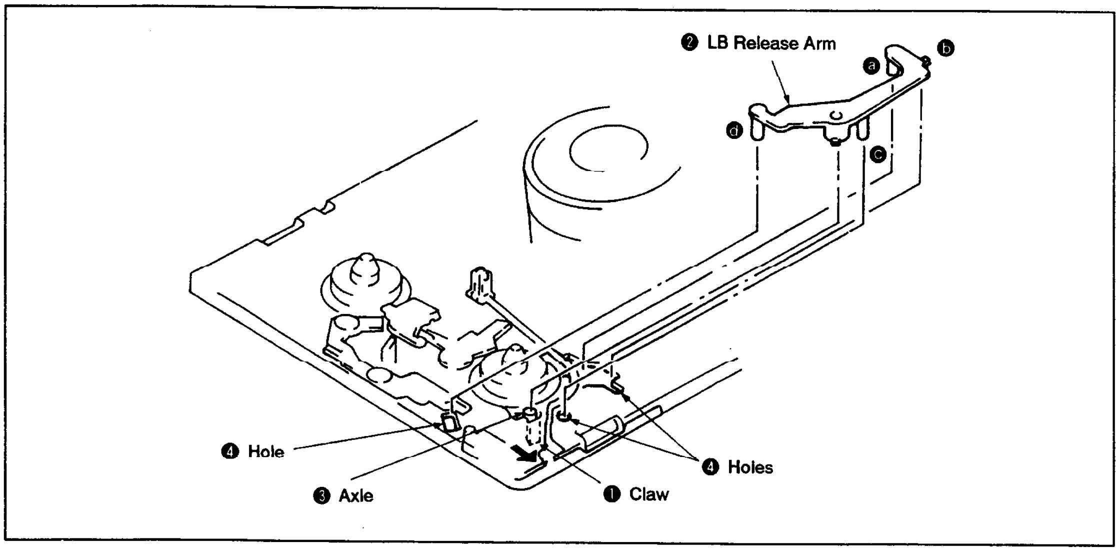

② LB Release Arm
ⓐ
ⓑ
ⓓ
ⓒ
④ Hole
③ Axle
① Claw
④ Holes

Fig. 3-6.

3-7. RK STOPPER, RK STOPPER ARMS

1. Removal (See Fig, 3-7.)

1) Remove the torsion coil spring (RK) ①.
2) Open the chassis claw ②, then remove the RK stopper arm ③.
3) Remove the RK stopper ④.

2. Installation (See Fig. 3-7.)

1) Mount the RK stopper ④ onto the axle ⑤.
2) Mount the RK stopper arm ③ onto the axle ⑥, insert Pin ⑩ into hole ⑪, then hook the claw ⑦ of the chassis to the hole ⑦.
3) Insert the torsion coil spring (RK) ① into the axle ⑤, then hook it to claws ⑧ and ⑨.

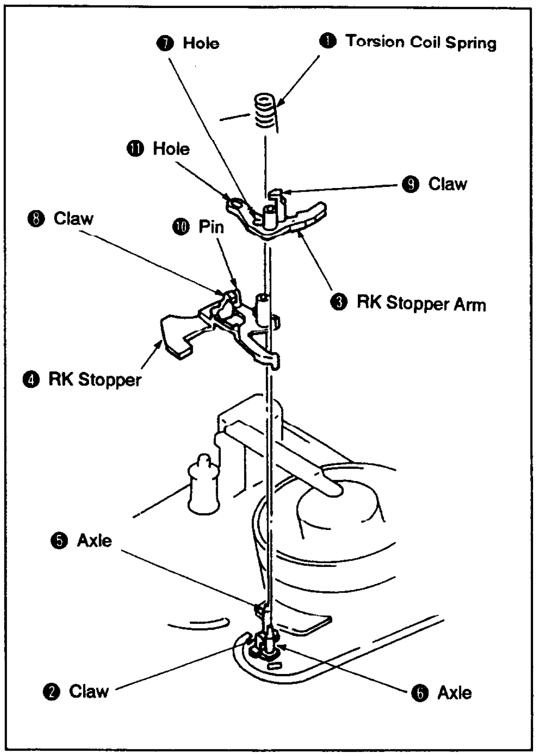

⑦ Hole
① Torsion Coil Spring
⑪ Hole
⑨ Claw
⑧ Claw
⑩ Pin
③ RK Stopper Arm
④ RK Stopper
⑤ Axle
② Claw
⑥ Axle

Fig. 3-7.

3-8. PINCH ARM ASSEMBLY, TG-7 ASSEMBLY

1. Removal (See Fig. 3-8.)

1) Set the $\boxed{\text{IB}}$ mode.
2) Remove the stopper washer ❶, then remove the pinch arm assembly ❷.
3) Bend the claw ❹ inside hole ❸ in the direction of the arrow using a thin screwdriver or the like, then remove the TG-7 plate spring ❺.
4) Remove the TG-7 arm assembly ❻.

2. Installation (See Fig. 3-8.)

1) Grease the inner surfaces of hole ❼ (See Fig. A).
2) Insert the axle ❽ of the TG-7 arm assembly ❻ into the hole ❼.
3) Grease the shaded section ⓐ (See Fig. A).
4) Insert the TG-7 plate spring ❺ into the hole ❸, then secure it with the claw ❹.
5) Apply half a drop of oil to the axle ❾ (See Fig. B).
6) Fit the pinch arm assembly ❷ to the axle ❾ and insert the pinch roller sub arm assembly tab ❿ into the ⓑ part.
7) Install the stopper washer ❶.

Note:
- Take care not to grease the screw ⓫ of the TG-7 arm assembly ❻ (See Fig. A).
- When fitting the pinch arm assembly ❷ to the axle ❾, make sure that it does not touch the TG-7 guide ⓬ or the rubber roller ⓭.
- After assembling, be sure to perform tape path adjustment as described in section 4.

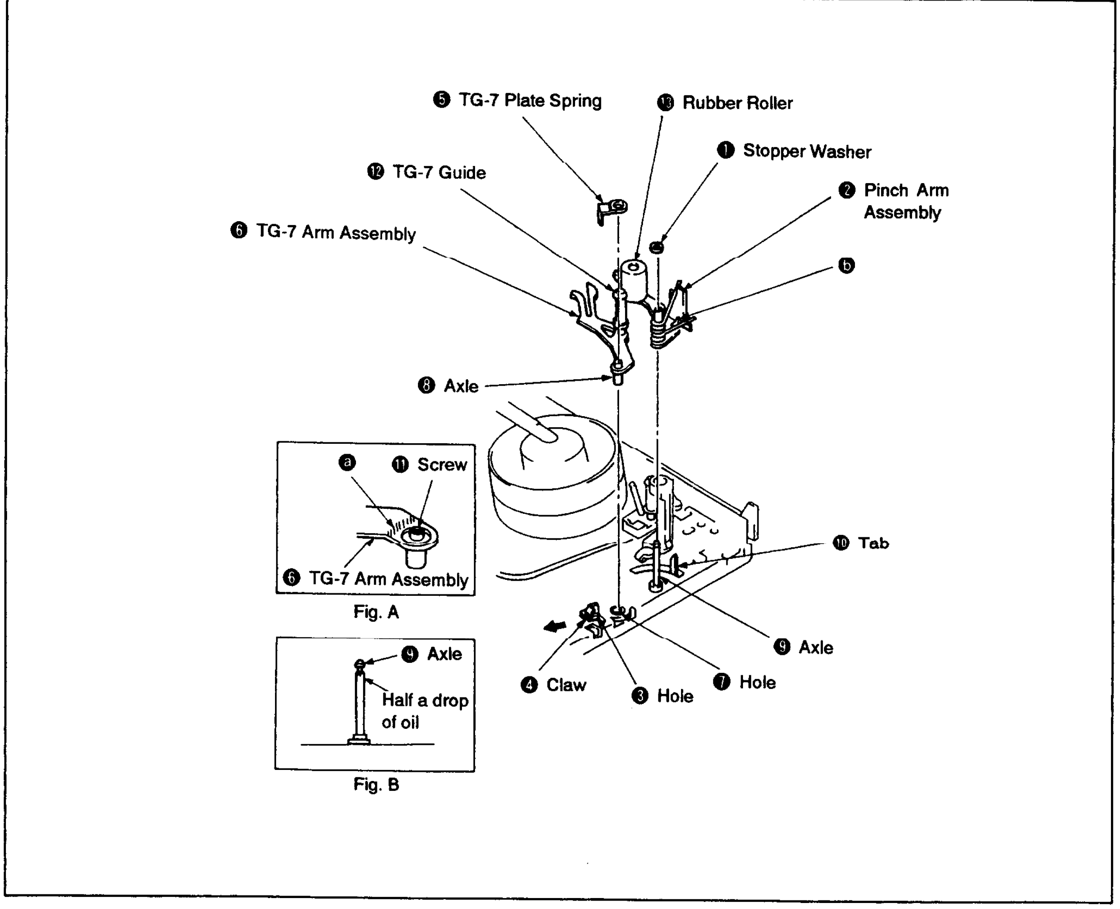

❺ TG-7 Plate Spring
⓭ Rubber Roller
❶ Stopper Washer
⓬ TG-7 Guide
❷ Pinch Arm Assembly
❻ TG-7 Arm Assembly
ⓑ
❽ Axle
ⓐ
⓫ Screw
❻ TG-7 Arm Assembly
Fig. A
❿ Tab
❾ Axle
Half a drop of oil
Fig. B
❾ Axle
❹ Claw
❸ Hole
❼ Hole

Fig. 3-8.

3-9. TG-2 ASSEMBLY

1. Removal (See Fig. 3-9.)

1) Remove the TG-2 upper flange assembly ❶.
2) Remove the TG-2 roller ❷, the TG-2 sleeve ❸, the TG-2 lower flange ❹ and the compression spring ❺.

2. Installation (See Fig. 3-9.)

1) Mount the compression spring ❺, the TG-2 lower flange ❹, the TG-2 sleeve ❸ and the TG-2 roller ❷ to the axle.
2) Secure the TG-2 upper flange ❶ to the axle by rotating it 4 to 6 turns.

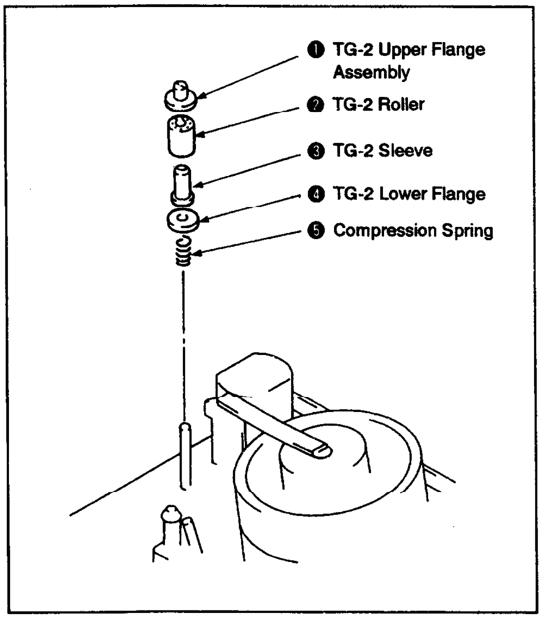

❶ TG-2 Upper Flange Assembly
❷ TG-2 Roller
❸ TG-2 Sleeve
❹ TG-2 Lower Flange
❺ Compression Spring

Fig. 3-9.

3. TG-2 Height Preset (see Fig. 3-10.)

1) Adjust height from the mechanism chassis upper surface to the TG-2 upper flange ❶ upper surface to 18.6 mm by turning the TG-2 upper flange ❶.

Note: After adjustment, be sure to perform tape path adjustment as described in section 4.

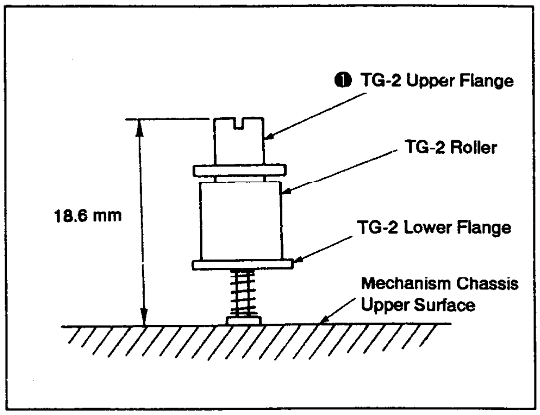

❶ TG-2 Upper Flange
TG-2 Roller
18.6 mm
TG-2 Lower Flange
Mechanism Chassis Upper Surface

Fig. 3-10.

3-10. S REEL TABLE ASSEMBLY, T REEL TABLE ASSEMBLY

1. Removal (See Fig. 3-11.)

1) Remove the S brake and T brake as described in section 3-4.
2) Remove the TL holding plate as described in section 3-5.
3) Remove the tension regulator band assembly as described in section 3-11.
4) Remove the S reel table assembly ❶.
5) Turn the stopper ❷ approx. 90 ° in the direction of the arrow Ⓐ.
6) While sliding the LB release arm ❸ in the direction of the arrow Ⓑ, remove the T reel table assembly ❹.

2. Installation (See Fig. 3-11.)

1) Apply half a drop of oil to the axle ❺ (See Fig. A).
2) Move the RK gear ❻ in the direction of the arrow Ⓒ and the TS brake ❼ in the direction of the arrow Ⓓ, putting them out of the way.
3) While sliding the LB release arm ❸ in the direction of the arrow Ⓑ, mount the T reel table assembly ❹ onto the axle ❺, then turn the stopper ❷ in the direction of the arrow Ⓔ as far as it will go.
4) Apply half a drop of oil to the axle ❽ (See Fig. B).
5) Move the RK gear ❻ in the direction of the arrow Ⓕ, the UL brake ❾ in the direction of the arrow Ⓖ and the LB brake ❿ in the direction of the arrow Ⓗ, putting them out of the way.
6) Mount the S reel table ❶ onto the axle ❽.
7) Mount the tension regulator band assembly as described in section 3-11.
8) Mount the TL holding plate as described in section 3-5.
9) Mount the S brake and T brake assemblies as described in section 3-4.

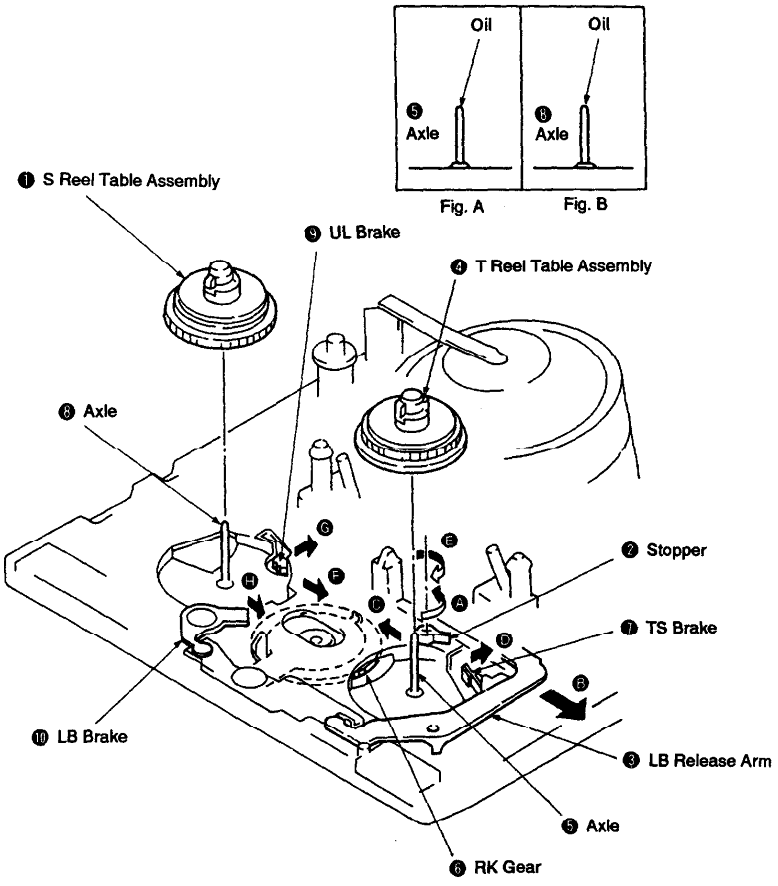

Oil
❺ Axle
Fig. A
Oil
❽ Axle
Fig. B
❶ S Reel Table Assembly
❾ UL Brake
❹ T Reel Table Assembly
❽ Axle
Ⓖ
Ⓔ
Ⓗ
Ⓕ
Ⓒ
Ⓐ
Ⓓ
❷ Stopper
❼ TS Brake
Ⓑ
❿ LB Brake
❸ LB Release Arm
❺ Axle
❻ RK Gear

Fig. 3-11.

3-11. TENSION REGULATOR BAND ASSEMBLY, TENSION REGULATOR ARM ASSEMBLY

1. Removal (See Fig. 3-12.)

1) Remove the TL holding plate as described in section 3-5.
2) Remove the screw ❶.
3) Using a thin screwdriver or the like, remove the tension regulator band assembly ❹ from the axle ❸ of tension regulator arm assembly ❷.
4) Remove the tension spring ❺.
5) Remove the stopper washer ❻ from the back of the mechanism chassis, then remove the tension regulator arm assembly ❷.
6) Open the claw ❼, then remove the adjust arm ❽.

Note: When removing the tension regulator band assembly ❹, take care not to twist or bend it, and not to touch the felt surface ❾.

2. Installation (See Fig. 3-12.)

1) Engage the adjust arm ❽ in the position shown in Fig. A, then close the claw ❼.
2) Apply half a drop of oil to the hole ❿.
3) Mount the tension regulator arm assembly ❷, then insert it into the slot ⓫ so that the ⓐ part comes to the arrow 🅐 side of the switch lever assembly (See Fig. B).
4) While holding the tension regulator arm assembly ❷ from the mechanism chassis front, secure it with the stopper washer ❻ from the back.
5) Hook the R hook of the tension spring ❻ to the adjust arm ❽ as shown in the figure, then hook the opposite end to the tension regulator arm assembly ❷.
6) Mount the tension regulator band assembly ❹ onto the axle ❸ of tension regulator arm assembly ❷, and place it so that the felt surface ❾ comes against the shaded portion of the S reel table assembly ⓬.
7) Mount the tension regulator plate ⓭ of the tension regulator band assembly ❹ so that it is aligned with the dowel ⓮ of the mechanism chassis, then secure it temporarily with the screw ❶.
8) Mount the TL holding plate as described in section 3-5.
9) Adjust tension regulator FWD position as described in section 3-12.
10) Perform adjust arm adjustment as described in section 3-22.

Note: When mounting the tension regulator band assembly ❷, take care not to twist or bend it, and not to touch the felt surface ❾.

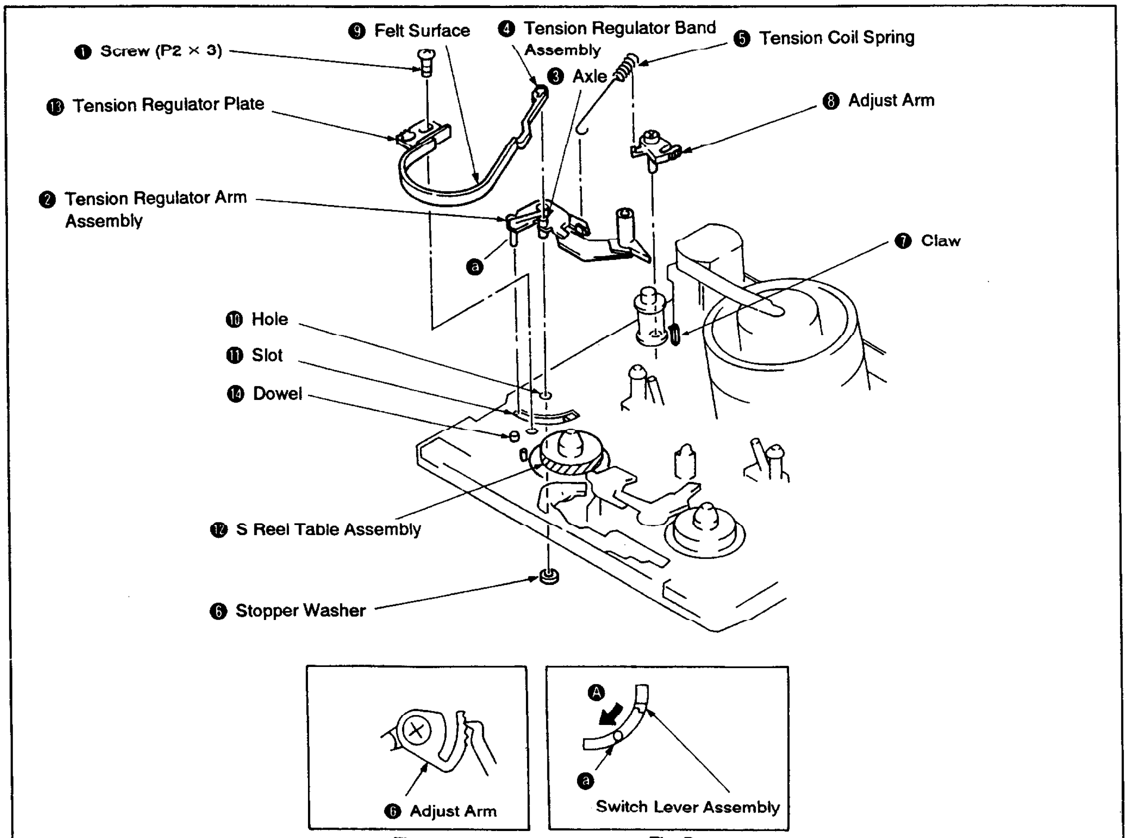

❶ Screw (P2 × 3)
❾ Felt Surface
❹ Tension Regulator Band Assembly
❸ Axle
❺ Tension Coil Spring
⓭ Tension Regulator Plate
❽ Adjust Arm
❷ Tension Regulator Arm Assembly
ⓐ
❼ Claw
❿ Hole
⓫ Slot
⓮ Dowel
⓬ S Reel Table Assembly
❻ Stopper Washer
❻ Adjust Arm
🅐
ⓐ
Switch Lever Assembly

Fig. A

Fig. B

Fig. 3-12.

3-12. TENSION REGULATOR FWD POSITION PRESET (See Fig. 3-13.)

1) Load a cassette tape and set the FWD mode.
2) Confirm whether the distance between ⓐ part of the tension regulator arm ❶ and the groove ❷ of the chassis is 1.1 ± 0.3 mm. If this distance is not within the specified range, remove the cassette tape and perform the following adjustment.
3) Loosen the fixing screw ❹ of the tension regulator band assembly ❸.
4) Slide the tension regulator plate ❺ in the direction of the arrow Ⓐ if the measured distance is over the specified range, and in the direction of the arrow Ⓑ if it is under that range. Then, fix it with the screw ❹.
5) Repeat steps 1) and 2) and confirm that the distance is within the specified range.

Note: Use a cassette with the tape advanced halfway.

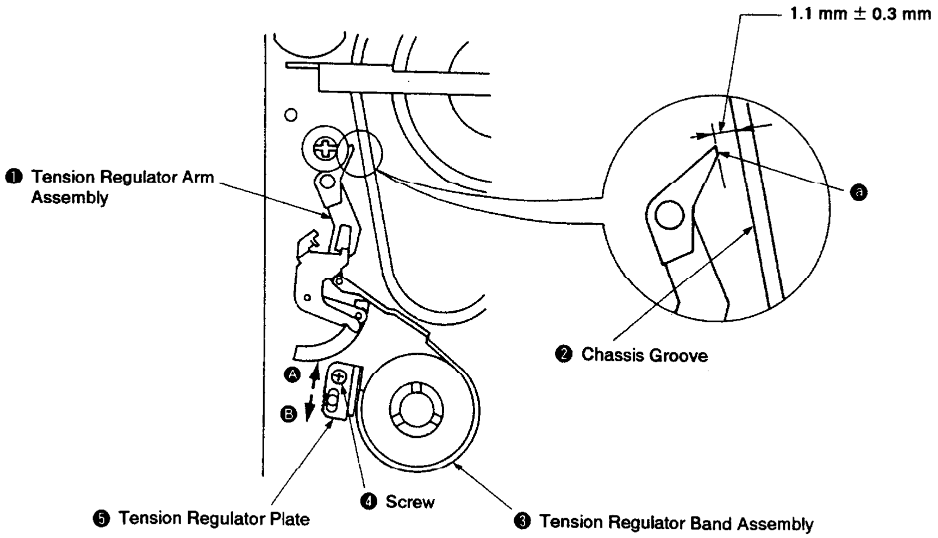

1.1 mm ± 0.3 mm
❶ Tension Regulator Arm Assembly
ⓐ
❷ Chassis Groove
Ⓐ
Ⓑ
❹ Screw
❺ Tension Regulator Plate
❸ Tension Regulator Band Assembly

Fig. 3-13.

3-13. DRUM ASSEMBLY, DEW SENSOR

1. Removal (See Fig. 3-14.)

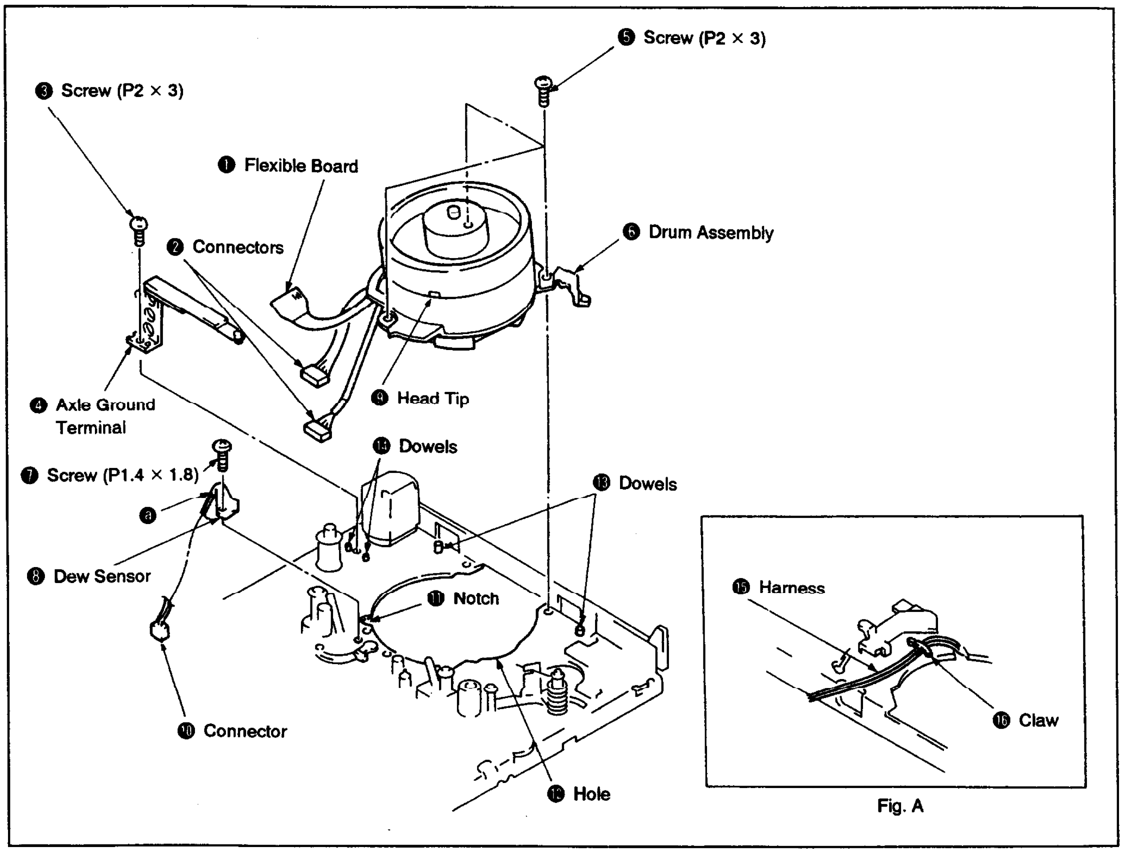
1) Set the EJECT mode.
2) Remove the flexible board ❶ and the two connectors ❷.
3) Remove the guide guard assembly as described in section 3-2.
4) Remove the screw ❸, then remove the axle ground terminal ❹.
5) Remove the three screws ❺, then remove the drum assembly ❻ from the mechanism chassis.
6) Remove the connector ❿
7) Remove the screw ❼, then remove the dew sensor ❽.

Note:
- When removing the drum assembly ❻ from the mechanism chassis, take care not to cut the flexible board ❶ or the harness.
- Take care not to touch the head tip ❾.

2. Installation (See Fig. 3-14.)

1) Insert part 🅐 of the dew sensor ❽ into the notch ⓫ of the mechanism chassis, then secure it with the screw ❼.
2) Mount the connector ❿.
3) Clamp the harness ⓯ of the dew sensor ❽ with the reinforcing the claw ⓰ of the plate SS assembly (See Fig. A).
4) Insert the connector ❷ and the flexible board ❶ into the hole ⓬ of the mechanism chassis, align the drum assembly ❻ with the two dowels ⓭ and secure it with the three screws ❺.
5) Align the axle ground terminal ❷ with the two dowels ⓮ of the mechanism chassis and secure it with the screw ❸.
6) Mount the guide guard assembly as described in section 3-2.
7) Mount the two connectors ❷ and the flexible board ❶.

Note:
- Take care not to cut the flexible board ❶ or the harness ⓯.
- Take care not to touch the head tip ❾.
- After assembling, be sure to perform Tape Path Adjustment following instructions in section 4.



❺ Screw (P2 × 3)
❸ Screw (P2 × 3)
❶ Flexible Board
❷ Connectors
❻ Drum Assembly
❹ Axle Ground Terminal
❾ Head Tip
⓮ Dowels
❼ Screw (P1.4 × 1.8)
🅐
⓭ Dowels
❽ Dew Sensor
⓫ Notch
⓯ Harness
⓰ Claw
❿ Connector
⓬ Hole
Fig. A

Fig. 3-14.

3-14. EJECT LEVER, SWITCH LEVER ASSEMBLY, PINCH ROLLER SUB ARM ASSEMBLY

1. Removal (See Fig. 3-15.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Set the [STOP] mode.
3) Remove the claw ❶, then remove the eject lever ❷.
4) Remove the stopper washer ❸, then remove the switch lever assembly ❹.
5) Remove the pinch roller load spring ❺.
6) Remove the stopper washer ❻, then remove the pinch roller sub arm assembly ❼.

2. Installation (See Fig. 3-15.)

1) Grease the axle ❽ (See Fig. A).
2) Assemble by inserting ⓐ part of the pinch roller sub arm assembly ❼ into the slot ❾, then insert the pin ❿ into the loading lever assembly notch ⓫.
3) Secure with the stopper washer ❻.
4) Mount the pinch roller load spring ❺ by catching its ⓑ end between the claw ⓬ and the chassis side and its ⓒ end to the claw ⓬.
5) Apply half a drop of oil to the axle ⓭ (See Fig. B).
6) Align the groove ⓮ of the switch lever assembly ❹ with the mode detector switch protrusion ⓯, mount it on the axle ⓭, then insert the pin ⓰ into the drive gear (left) assembly ⓱ outer groove.
7) Secure with the stopper washer ❸.
8) Mount the eject lever ❷ and close the claw ❶.
9) Mount the DC motor (capstan motor) as described in section 3-3.

Note: When mounting the switch lever assembly ❹ onto the axle ⓭ with the tension regulator arm assembly installed, set the pin ⓰ to the arrow Ⓐ side of the switch lever assembly ❹.

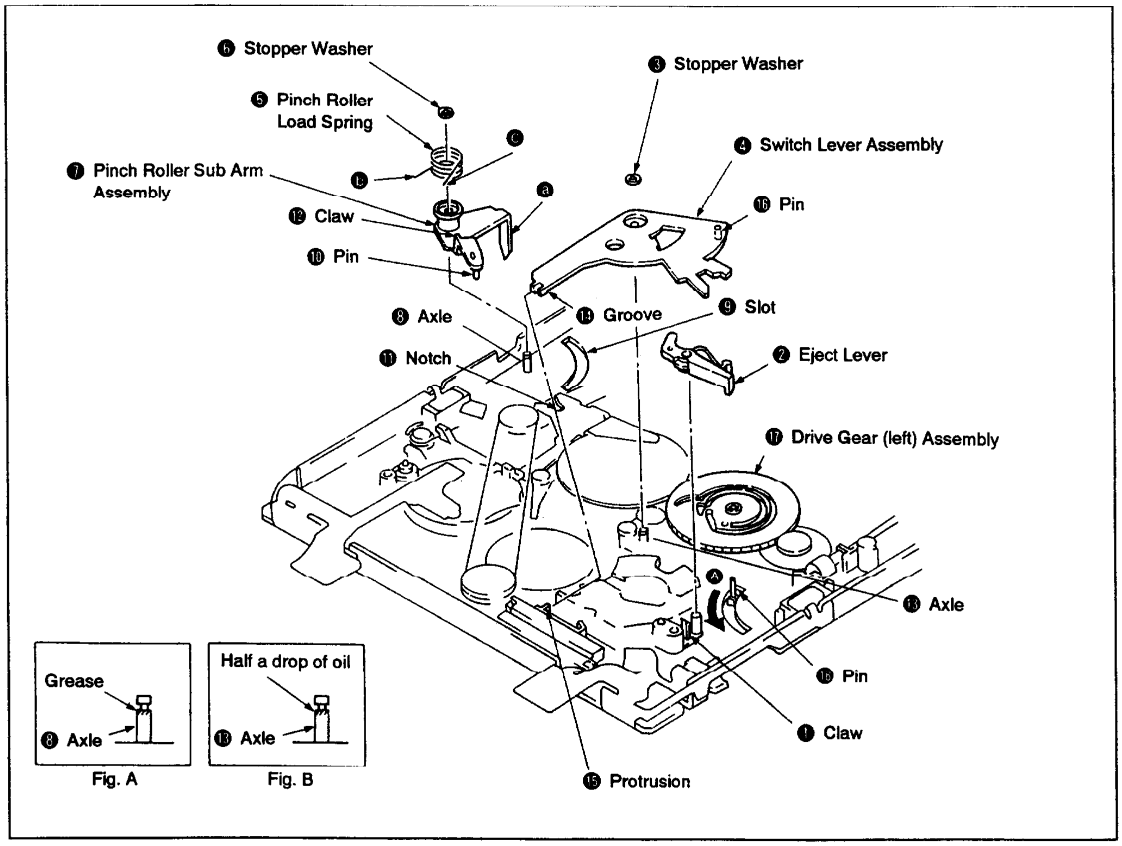

❻ Stopper Washer
❺ Pinch Roller Load Spring
❸ Stopper Washer
ⓒ
❹ Switch Lever Assembly
❼ Pinch Roller Sub Arm Assembly
ⓑ
ⓐ
⓰ Pin
⓬ Claw
❿ Pin
❽ Axle
⓮ Groove
❾ Slot
⓫ Notch
❷ Eject Lever
⓱ Drive Gear (left) Assembly
Ⓐ
⓭ Axle
⓰ Pin
❶ Claw
⓯ Protrusion
Grease
❽ Axle
Fig. A
Half a drop of oil
⓭ Axle
Fig. B

Fig. 3-15.

3-15. TIMING BELT (L) , RC GEAR ASSEMBLY, LOADING LEVER ASSEMBLY, TIMING BELT (S), CONNECTING GEAR ASSEMBLY

1. Removal (See Fig. 3-16.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the pinch roller sub arm assembly as described in section 3-14.
3) Set the STOP mode.
4) Remove the stopper washer ① , then remove the RC gear assembly ② from the axle ④ with the timing belt (L) ③ attached.
5) Remove the timing belt (L) ③ from the idler pulley assembly ⑤.
6) Remove the stopper washer ⑥ and remove the loading lever assembly ⑧ while pushing the claw ⑦ in the direction of the arrow Ⓐ.
7) Turn the stopper ⑨ approx. 90 ° in the direction of the arrow Ⓑ.
8) Remove the connecting gear assembly ⑪ from the axle ⑯ with the timing belt (S) ⑩ attached.
9) Remove the timing belt (S) ⑩ from the idler pulley assembly ⑤.

Note: When removing the connecting gear ⑪ , take care not touch the flange section ⓑ.

2. Installation (See Fig. 3-16.)

1) Apply half a drop of oil to the axle ⑯ (See Fig. F).
2) Hook one end of the timing belt (S) ⑩ onto the connecting gear assembly ⑪ and the other end onto gear ⓓ of the idler pulley assembly ⑤. (Refer to the figure.)
3) Mount the connecting gear assembly ⑪ with the timing belt (S) ⑩ attached to the axle ⑯.
4) Turn the stopper ⑨ in the direction of the arrow Ⓒ as far as it will go.
5) Apply half a drop of oil to the axle ⑫ (See Fig. A).
6) Fit the loading lever assembly ⑧ to the axle ⑫, secure the ⓐ part with the claw ⑦ and place the pin ⑬ into the groove of the drive gear (right) assembly ⑭.
7) Install the stopper washer ⑥.
8) Place the timing belt (L) ③ around the gears of the RC gear assembly ② indicated in Fig. B, and its opposite side around the gear ⓒ of the idler pulley assembly ⑤. (See Fig. E.)
9) Mount the RC gear assembly ② onto the axle ④ with the timing belt (L) ③ attached, and engage it with the gear of the RK gear assembly ⑮.
10) Install the stopper washer ①.
11) Grease parts of the loading lever assembly ⑧ indicated in Fig. C.
12) Mount the pinch roller sub arm assembly as described in section 3-14.
13) Mount the DC motor (capstan motor) as described in section 3-3.

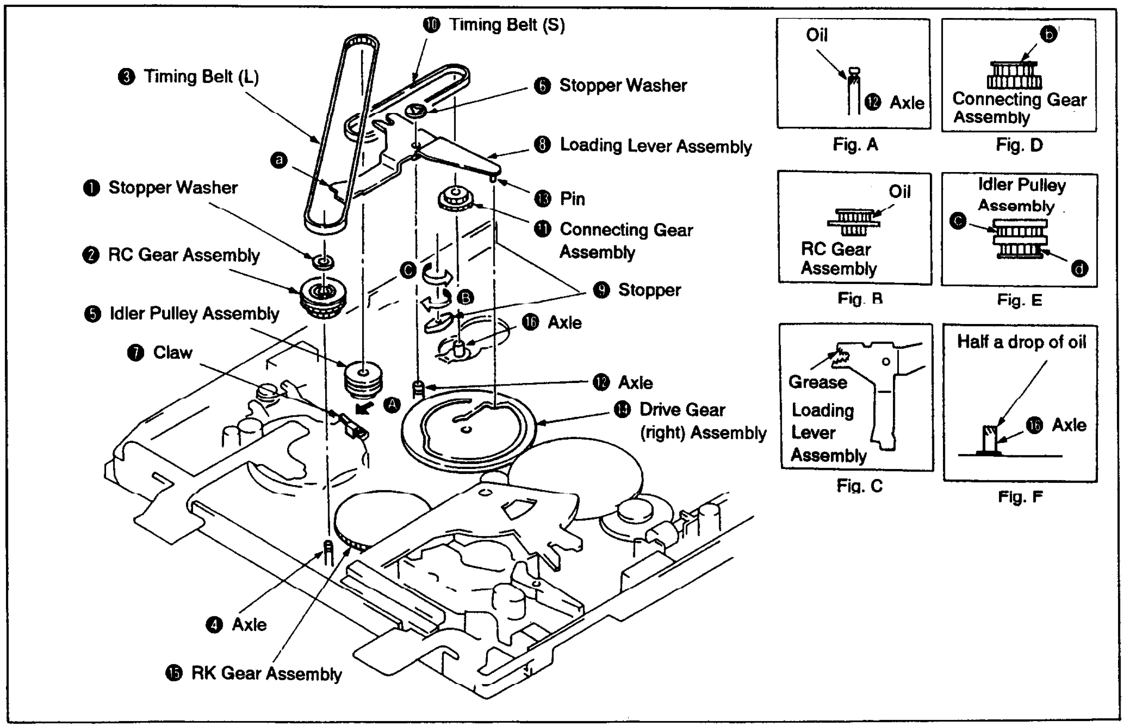

⑩ Timing Belt (S)
③ Timing Belt (L)
⑥ Stopper Washer
⑧ Loading Lever Assembly
ⓐ
① Stopper Washer
⑬ Pin
⑪ Connecting Gear Assembly
② RC Gear Assembly
Ⓒ
Ⓑ
⑨ Stopper
⑤ Idler Pulley Assembly
⑯ Axle
⑦ Claw
⑫ Axle
Ⓐ
⑭ Drive Gear (right) Assembly
④ Axle
⑮ RK Gear Assembly
Oil
⑫ Axle
Fig. A
ⓑ
Connecting Gear Assembly
Fig. D
Oil
RC Gear Assembly
Fig. B
Idler Pulley Assembly
ⓒ
ⓓ
Fig. E
Grease
Loading Lever Assembly
Fig. C
Half a drop of oil
⑯ Axle
Fig. F

Fig. 3-16.

3-16. IDLER PULLEY, TS BRAKE ASSEMBLY, LB GEAR ASSEMBLY, RK GEAR ASSEMBLY

1. Removal (See Fig. 3-17.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the switch lever assembly as described in section 3-14.
3) Remove the timing belt (L), the RC gear assembly, the loading lever assembly, the timing belt (S) and the connecting gear assembly described in section 3-15.
4) Set the STOP mode.
5) Remove the stopper washer ❶, then remove the idler pulley ❷.
6) Open the claw ❸, then remove the TS brake assembly ❹.
7) Remove the torsion coil spring (LB) ❺.
8) Remove the stopper washer ❻, then remove the LB gear assembly ❼.
9) Remove the RK gear assembly ❽.

Note: When removing the idler pulley ❷, take care not to touch the flange section ⓐ. (See Fig. C.)

2. Installation (See Fig. 3-17.)

1) Apply half a drop of oil to the axle ❾ (See Fig. A).
2) Mount the RK gear assembly ❽ onto the axle ❾, keeping it in horizontal position.
3) Apply half a drop of oil to the axle ❿ (See Fig. B).
4) Mount the LB gear assembly ❼ onto the axle ❿ and secure it with the stopper washer ❻.
5) Insert the torsion coil spring (LB) ❺ into the axle ⓫, then hook it to the mechanism chassis notch ⓬ and to the tab ⓭.
6) Mount the TS brake assembly ❹ and close the claw ❸.
7) Apply half a drop of oil to the axle ⓰ (See Fig. D).
8) Mount the idler pulley ❷ onto the axle ⓰, then secure it with the stopper washer ❶.
9) Mount the timing belt (L), the RC gear assembly, the loading lever assembly, the timing belt (S) and the connecting gear assembly as described in section 3-15.
10) Mount the switch lever assembly as described in section 3-14.
11) Mount the DC motor (capstan motor) as described in section 3-3.

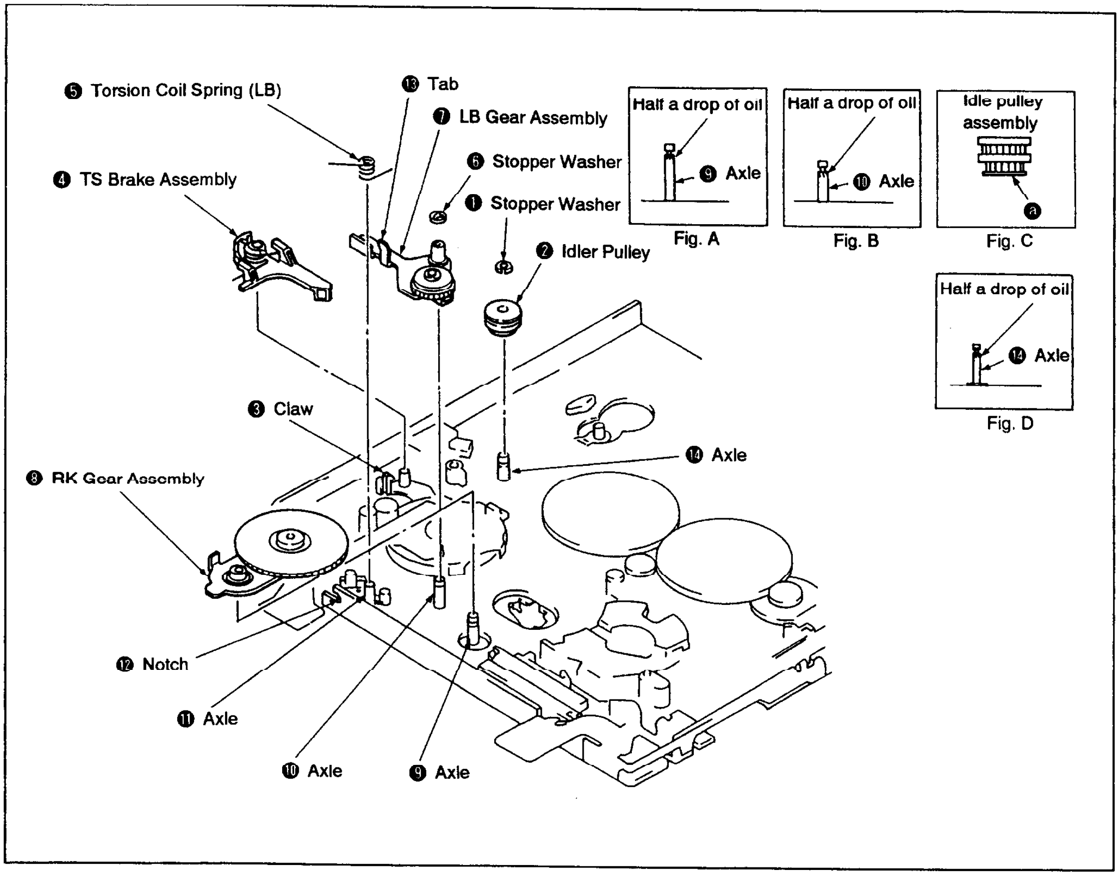

❺ Torsion Coil Spring (LB)
⓭ Tab
❼ LB Gear Assembly
❹ TS Brake Assembly
❻ Stopper Washer
❶ Stopper Washer
❷ Idler Pulley
Half a drop of oil
❾ Axle
Fig. A
Half a drop of oil
❿ Axle
Fig. B
Idle pulley assembly
ⓐ
Fig. C
Half a drop of oil
⓮ Axle
Fig. D
❸ Claw
⓮ Axle
❽ RK Gear Assembly
⓬ Notch
⓫ Axle
❿ Axle
❾ Axle

Fig. 3-17.

3-17. UL GEAR, UL BRAKE, UL ARM, LB PLATE SPRING

1. Removal (See Fig. 3-18.)

1) Remove the switch lever assembly as described in section 3-14.
2) Remove the stopper washer ❶, then remove the UL gear ❷.
3) Remove the UL arm ❸, the 1.6 mm-diameter poly washer ❹ and the LB plate spring ❺.
4) Remove the UL brake ❻.

2. Installation (See Fig. 3-18.)

1) Mount the UL brake ❻.
2) Apply half a drop of oil to the axle ❼ (See Fig. A).
3) Mount the LB plate spring ❺ to the axle ❼ as shown in Fig. B, then install the 1.6mm-diameter poly washer ❹.
4) Mount the UL arm ❸ to the axle ❼ so that the protrusion ❽ comes into the groove ❾ of the UL brake ❻.
5) Mount the UL gear ❷ to the axle ❼ and engage it with the gear of the drive gear (left) assembly ❿.
6) Install the stopper washer ❶.
7) Mount the switch lever assembly as described in section 3-14.

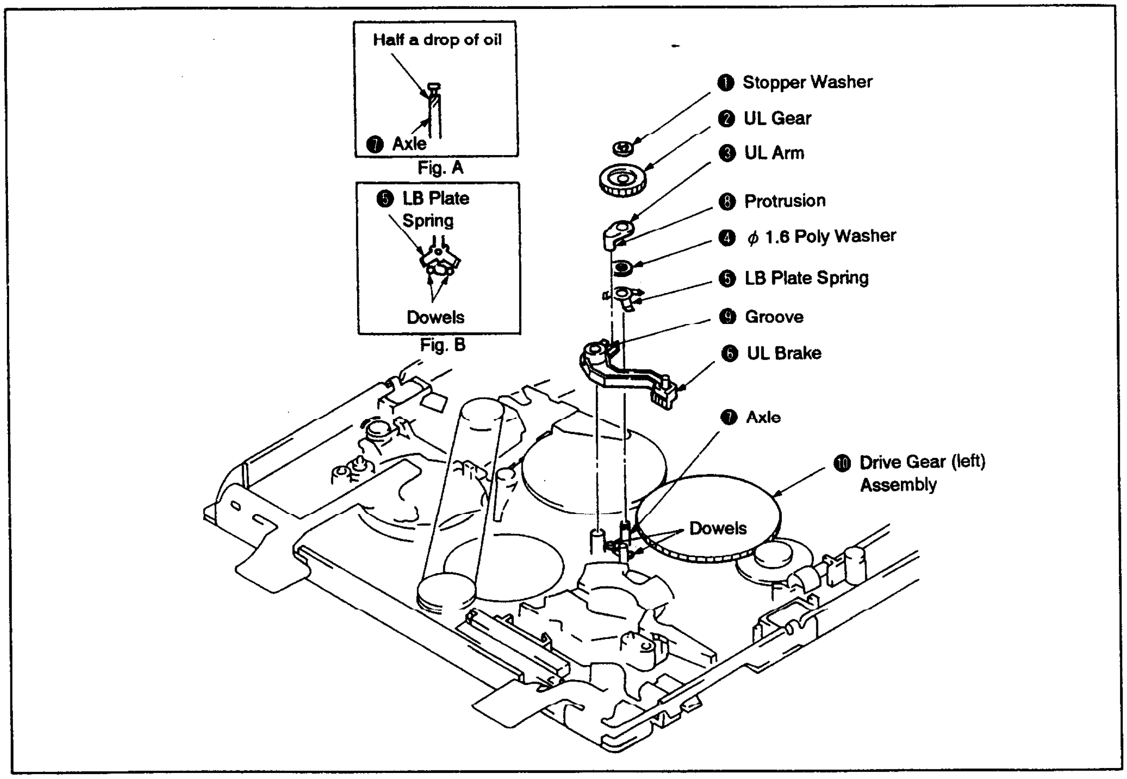

Half a drop of oil
❼ Axle
Fig. A
❺ LB Plate Spring
Dowels
Fig. B
❶ Stopper Washer
❷ UL Gear
❸ UL Arm
❽ Protrusion
❹ ϕ 1.6 Poly Washer
❺ LB Plate Spring
❾ Groove
❻ UL Brake
❼ Axle
❿ Drive Gear (left) Assembly
Dowels

Fig. 3-18.

3-18. COASTER (RIGHT) ASSEMBLY, DRIVE GEAR (RIGHT) ASSEMBLY

1. Removal (See Fig. 3-19.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the drum unit as described in section 3-13.
3) Remove the switch lever assembly as described in section 3-14.
4) Remove the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
5) Set the STOP mode.
6) Remove the screw ❶, then remove the coaster plate spring ❷ and the coaster (right) assembly ❸.
7) Remove the two screws ❹, then remove the reinforcing plate TT ❺.
8) Remove the stopper washer 1.5 ❻, then remove the drive gear (right) assembly ❼.

2. Installation (See Fig. 3-19.)

1) Grease the points of the mechanism chassis shown in Fig A.
2) Apply half a drop of oil to the axle ❽ (See Fig. F).
3) Grease pin ❾, axle ❿ and dowel ⓮ of the coaster (right) assembly ❸ (See Fig. D).
4) Mount by aligning the pin ❾ and the axle ❿ with the slot ⓫ of the mechanism chassis.
5) Move the brake release arm ⓬ in the direction of the arrow Ⓐ to put it out of the way.
6) Mount the drive gear (right) assembly ❼ to the axle ❽, and engage it with the drive gear (left) assembly ⓭ as shown in Fig. B.
7) Align the ⓐ part with the ⓑ part, and the hole ⓮ with the pin ❾ of the coaster (right) assembly ❸.
8) Install the stopper washer 1.5 ❻.
9) Mount by aligning the coaster plate spring ❷ with the axle ❿ of the coaster (right) assembly ❸ and pin ❾, then secure with the screw ❶.
10) Mount the reinforcing plate TT ❺ aligning it with the dowel ⓯, then tighten the two screws ❹ in the indicated order.
11) Grease the points indicated in Figs. C and E.
12) Mount the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
13) Mount the switch lever assembly as described in section 3-14.
14) Mount the drum unit as described in section 3-13.
15) Mount the DC motor (capstan motor) as described in section 3-3.

Note:
- Screw ❶ should be tightened with a tightening torque of approx. 500g•cm. If tightened too much, the coaster (right) assembly ❸ and the coaster plate spring ❷ will be deformed.
- After installing, be sure to perform tape path adjustment as described in section 4.

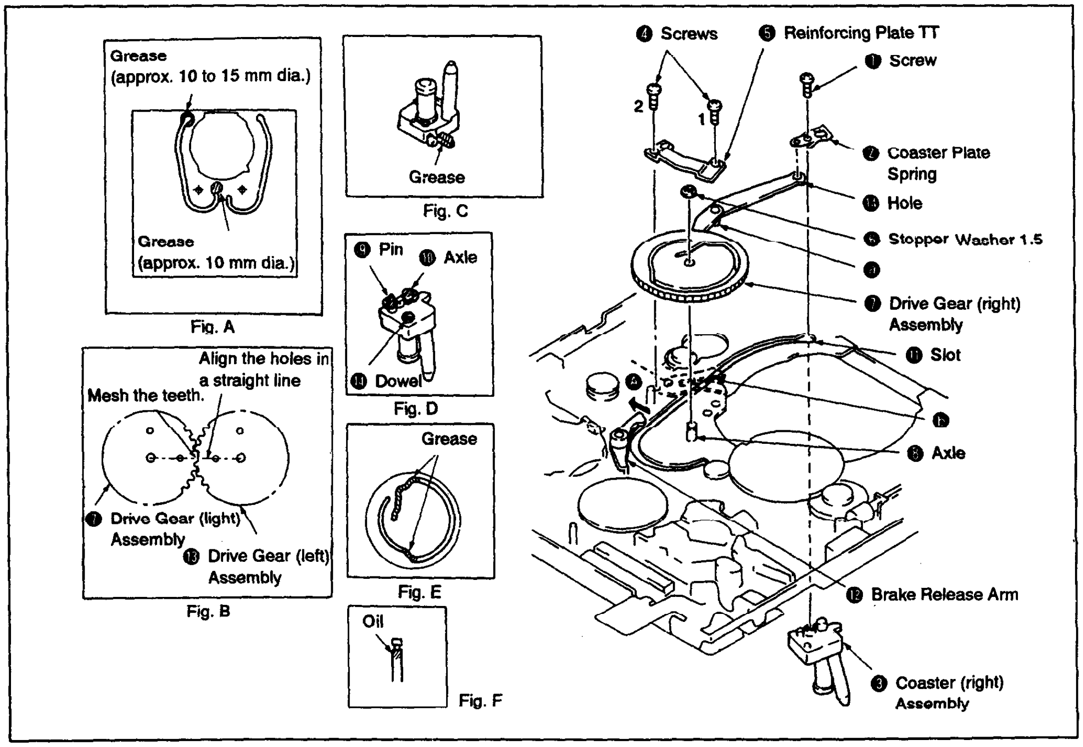


Fig. A

Fig. B

Fig. C

Fig. D

Fig. E

Fig. F

Grease
(approx. 10 to 15 mm dia.)
Grease
(approx. 10 mm dia.)
Align the holes in a straight line
Mesh the teeth.
❼ Drive Gear (right) Assembly
⓭ Drive Gear (left) Assembly
Grease
❾ Pin
❿ Axle
⓮ Dowel
Grease
Oil
❹ Screws
❺ Reinforcing Plate TT
❶ Screw
2
1
❷ Coaster Plate Spring
⓮ Hole
❻ Stopper Washer 1.5
ⓐ
❼ Drive Gear (right) Assembly
⓫ Slot
Ⓐ
ⓑ
❽ Axle
⓬ Brake Release Arm
❸ Coaster (right) Assembly

Fig. 3-19.

3-19. COASTER (LEFT) ASSEMBLY, DRIVE GEAR (LEFT) ASSEMBLY

1. Removal (See Fig. 3-20.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the drum assembly as described in section 3-13.
3) Remove the switch lever assembly and the pinch roller sub-arm assembly as described in section 3-14.
4) Remove the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
5) Remove the coaster (right) assembly and the drive gear (right)assembly as described in section 3-18.
6) Remove the screw ❶, then remove the coaster plate spring ❷ and the coaster (left) assembly ❸.
7) Remove the two screws ❹, then remove the reinforcing plate SS assembly ❺.
8) Remove the stopper washer 1.5 ❻, then remove the drive gear (left) assembly ❼.

2. Installation (See Fig. 3-20.)

1) Grease the points of the mechanism chassis shown in Fig A.
2) Apply half a drop of oil to the axle ❽ (See Fig. E).
3) Grease pin ❾, axle ❿ and dowel ⓰ of the coaster (left) assembly ❸ (See Fig. B).
4) Mount by aligning the pin ❾ and the axle ❿ with the slot ⓫ of the mechanism chassis.
5) Fit the drive gear (left) assembly ❼ to the axle ❽, and mount so that the gear engages with the wheel gear ⓭ and the UL gear ⓮.
6) Align the ⓐ part with the slot ⓫, and the hole ⓮ with the pin ❾ of the coaster (left) assembly ❸.
7) Install the stopper washer 1.5 ❻.
8) Mount by aligning the coaster plate spring ❷ with the axle ❿ and pin ❾ of the coaster (left) assembly ❸, then secure with the screw ❶.
9) Mount the reinforcing plate SS assembly ❺ aligning it with the dowel ⓯, then tighten the two screws ❹ in the indicated order.
10) Grease points indicated in Figs. C and D.
11) Mount the coaster (right) assembly and the drive gear (right)assembly as described in section 3-18.
12) Mount the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
13) Mount the switch lever assembly and the pinch roller sub arm assembly as described in section 3-14.
14) Mount the drum assembly as described in section 3-13.
15) Mount the DC motor (capstan motor) as described in section 3-3.

Note:
- Screw ❶ should be tightened with a tightening torque of approx. 500g•cm. If tightened too much, the coaster (right) assembly ❸ and the coaster plate spring ❷ will be deformed.
- After installing, be sure to perform tape path adjustment as described in section 4.

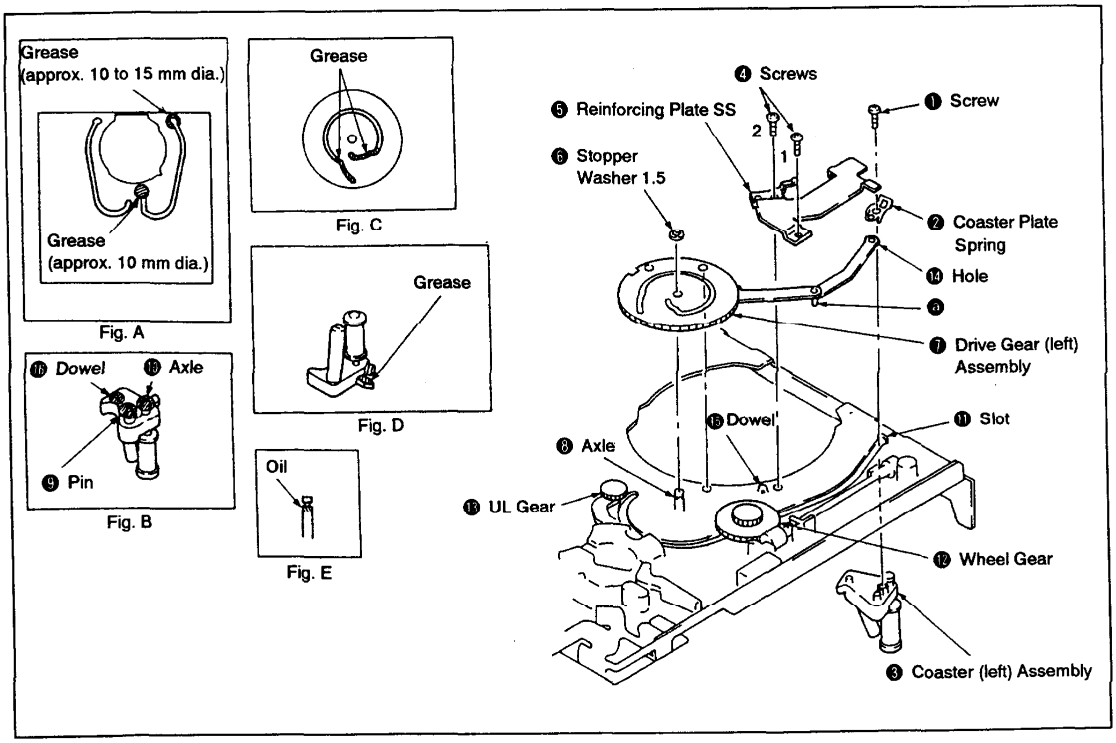

Grease
(approx. 10 to 15 mm dia.)
Grease
(approx. 10 mm dia.)
Fig. A
⓰ Dowel
❿ Axle
❾ Pin
Fig. B
Grease
Fig. C
Grease
Fig. D
Oil
Fig. E
❹ Screws
❺ Reinforcing Plate SS
2
1
❶ Screw
❻ Stopper Washer 1.5
❷ Coaster Plate Spring
⓮ Hole
ⓐ
❼ Drive Gear (left) Assembly
⓯ Dowel
❽ Axle
⓫ Slot
⓭ UL Gear
⓬ Wheel Gear
❸ Coaster (left) Assembly

Fig. 3-20.

3-20. LOADING MOTOR, BRAKE RELEASE ARM, WHEEL GEAR, WORM ASSEMBLY

1. Removal (See Fig. 3-21.)

1) Remove the DC motor (capstan motor) as described in section 3-3.
2) Remove the switch lever assembly and the pinch roller sub arm assembly as described in section 3-14.
3) Remove the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
4) Remove the drive gear (right) assembly as described in section 3-18.
5) Remove the drive gear (left) assembly as described in section 3-19.
6) Remove the two screws ❶, then remove the loading motor assembly ❷.
7) Remove the brake release arm ❸.
8) Remove the stopper washer ❹, then remove the wheel gear ❺.
9) Remove the worm assembly ❻ from the six claws ❼.

2. Installation (See Fig. 3-21.)

1) Mount the worm assembly ❻, matching it to the six claws ❼.
2) Grease the shaded parts of the worm assembly ❻ (five places) (see Fig A).
3) Apply half a drop of oil to the axle ❽ (See Fig. B).
4) Fit the wheel gear ❺ to the axle ❽ and engage it with the gear of the worm assembly ❻.
5) Mount the brake release arm ❸.
6) Grease the whole perimeter of the gear of the loading motor assembly ❷.
7) Align the loading motor assembly ❷ with the mechanism chassis and secure it with the two screws ❷.
8) Mount the drive gear (left) assembly as described in section 3-19.
9) Mount the drive gear (right) assembly as described in section 3-18.
10) Mount the timing belt (L), the RC gear assembly and the loading lever assembly as described in section 3-15.
11) Mount the switch lever assembly and the pinch roller sub arm assembly as described in section 3-14.
12) Mount the DC motor (capstan motor) as described in section 3-3.

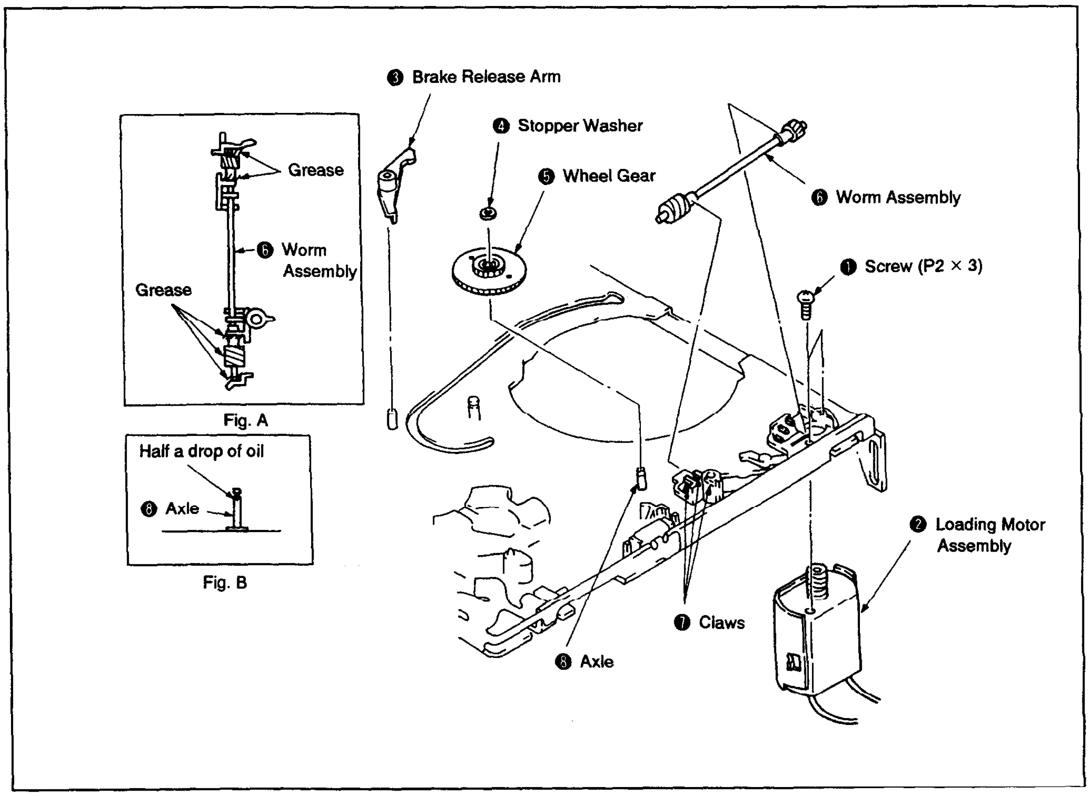


Fig. A

Fig. B

Fig. 3-21.

3-21. ROTARY UPPER DRUM REPLACEMENT

1. Removal

- If possible, make a recording before removal.

1) Detach the six solderings ⓐ, then use a pair of tweezers or the like to confirm that the terminals passing through the board holes from below can move freely.
2) Remove the two screws ❶ (See Fig. 3-22).
3) Mount the jig ❹ (Ref. No. J-7) with the two supplied screws ❷, then screw the attached hexagon socket screws ❸ to the jig ❹. The rotary upper drum ❺ will move upward and come off (See Fig. 3-23).

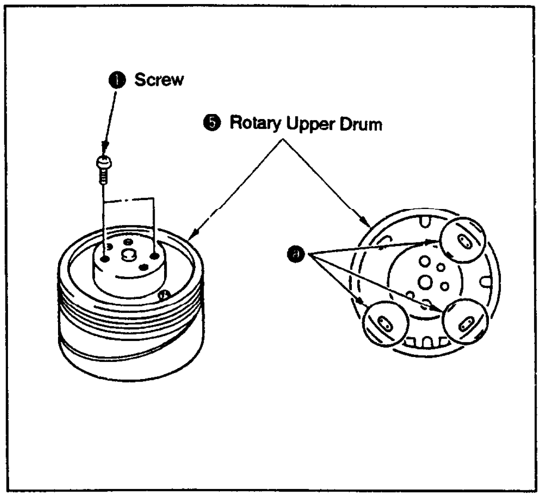


Fig. 3-22.

2. Installation

1) Wipe clean the flange surface and the rotary upper drum ❺ surface that makes contact with it, and confirm that they are free from dirt and scratches.
2) Insert the jig ❼ (Ref. No. J-7) into the drum positioning hole, then set the rotary upper drum ❺ by passing the jig through its positioning hole ❻.

   Note: Confirm that the terminals ❽ protrude slightly from the rotary upper drum board holes (See Fig. 3-24).
3) Remove the jig ❼ and push down the rotary upper drum ❺ gently by hand. If it does not go all the way down, secure it temporarily by tightening the two hexagon socket screws ❶ alternately.
4) Insert the jig ❼ into the positioning hole ❻ again and confirm that it goes in smoothly. If it does not, loosen the two screws ❶, repeat step 3 of the Removal paragraph and restart the setting procedure.
5) Tighten the screws ❶.
6) Solder the terminals ❽ (ⓐ in Fig. 3-22).

   Note: Take care that no solder flows below the board.

Note: After installing, be sure to perform tape path adjustment as described in section 4.

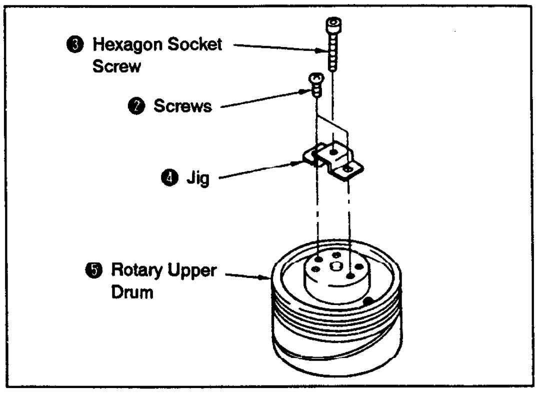


Fig. 3-23.

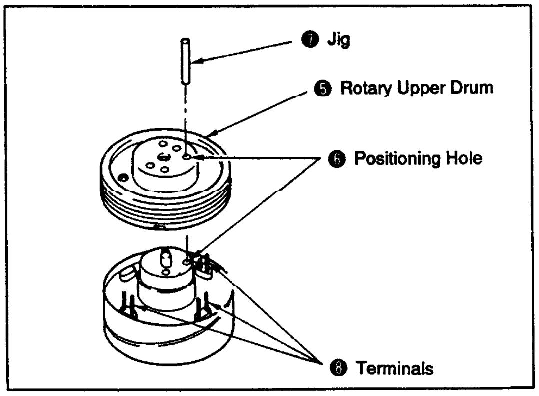


Fig. 3-24.

3-22. FWD BACK TENSION (See Fig. 3-25.)

1) Set the torque cassette (Ref. No. J-6).
2) Set the FWD mode and confirm that S reel table torque value is within 9 to 13 g•cm.
3) If the torque value does not meet the specification, adjust the adjust arm ❶.

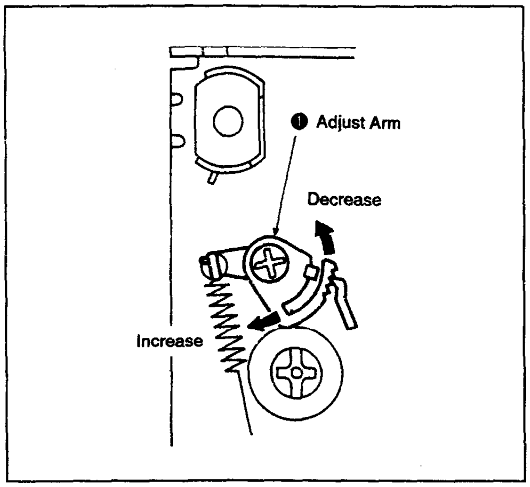


Fig. 3-25.

3-23. REEL TORQUE CHECK

1) Set the torque cassette.
2) Set the FWD mode and confirm that T reel table torque value is within 7 to 15 g•cm.
3) Set the REV mode and confirm that S reel table torque value is within 29 ± 6 g•cm.
4) Set the REV mode and confirm that T reel table torque value is within 13 to 25 g•cm.
5) If a torque value does not meet the specifications above, replace the corresponding reel table.

4. TAPE PATH ADJUSTMENT

[The Track Shift Mode]

In the 8 mm video system, instantaneous tape speed control is performed using four kinds of pilot signals, and high-precision tracking is achieved through the ATF (Automatic Track Finding) system. This makes a tracking control knob unnecessary and allows for precise tracing.

On the other hand, however, tape path adjustment presents some difficulties when the ATF system is used. Namely, since the ATF system will automatically compensate to some degree for head tracing errors, thorough adjustment is not possible.

This can be solved by setting the track shift mode for tracking fine adjustment. ATF will be compulsorily activated, shifting the tracking amount by a fixed amount (approx. 1/4) and thus making tracking fine adjustment easy. Furthermore, no track shift jigs are required.

4-1. TRACK SHIFT MODE SETTING

[Setting Procedure]

- Connect the TEST A and TEST B terminals to the COM terminal.
  Example:
  NTSC ········ GV-8
  PAL ·········· GV-8E
  Connect Pins ① and pin ③ of CN017 on the { SV-34 board (GV-8) / SV-35 board (GV-8E) } to pin ② of it. (See Fig. 4-1)

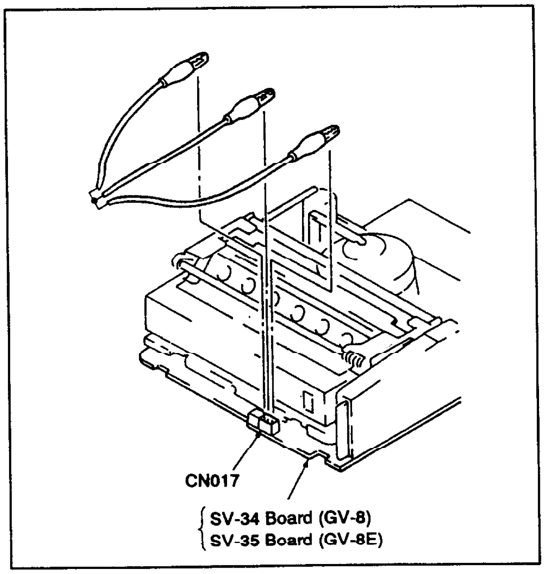
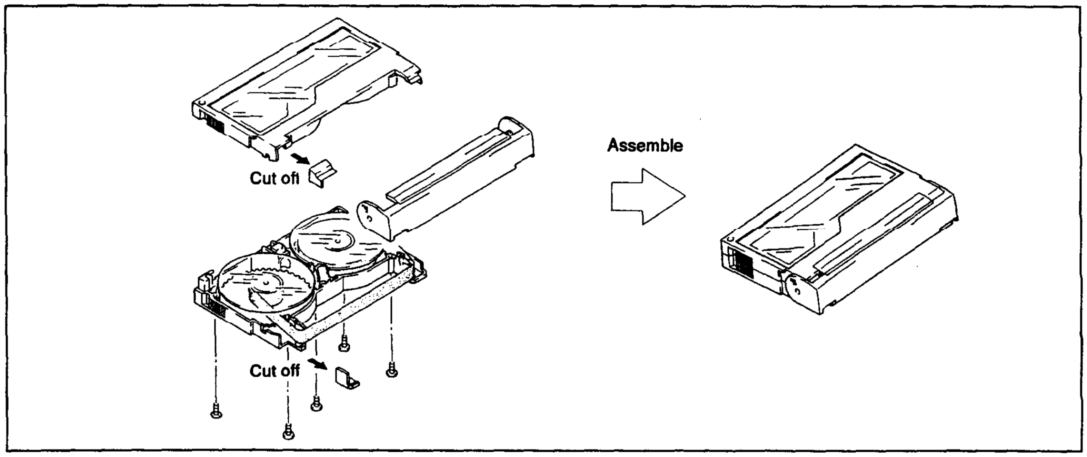


Fig. 4-1.

[Note on Adjustment of No.7 Guide (TG-7)]

The height adjustment screw for No.7 guide (TG-7) is located at some distance from the guide (refer to Fig. 4-2).
Therefore, when performing section 4-6. No.7 Guide (TG-7) Adjustment it is convenient to use the alignment tape for tracking (Ref. No. J-5), modified as follows, and perform adjustment in playback mode.


Cut off
Cut off
Assemble

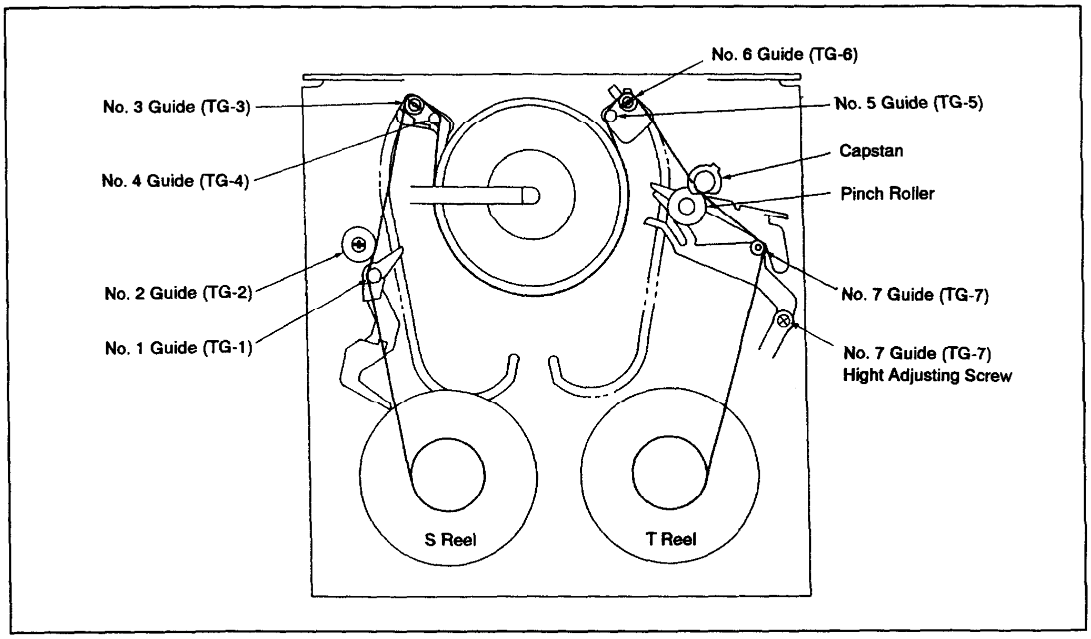

No. 6 Guide (TG-6)
No. 3 Guide (TG-3)
No. 5 Guide (TG-5)
Capstan
No. 4 Guide (TG-4)
Pinch Roller
No. 2 Guide (TG-2)
No. 7 Guide (TG-7)
No. 1 Guide (TG-1)
No. 7 Guide (TG-7)
Hight Adjusting Screw
S Reel
T Reel

Fig. 4-2.

4-2. PREPARATIONS FOR ADJUSTMENT

1) Clean tape path surfaces (tape guides, drum, capstan shaft, pinch roller) (See Fig. 4-2).
2) Connection of oscilloscope and output method of waveform.
CH 1: RF signal output of the drum head (V RF OUT)
Method for signal output:
Short-circuit the external trigger output (RF SW. P) and GND.

Example:
NTSC ····· GV-8
PAL ······· GV-8E
CH 1: Pin ③ (V RF OUT) of CN018 on the
SV-34 board (GV-8)
SV-35 board (GV-8E)
Method for signal output:
Short-circuit pin ① (GND) and pin ② (RF SW.P) of CN018 on the
SV-34 board (GV-8)
SV-35 board (GV-8E)

3) Play back the alignment tape for tracking adjustment (Ref. No. J-5).
4) Confirm that both the entrance and exit side RF waveforms of the oscilloscope are flat (See Fig. 4-4). If they are not, adjust as follows.

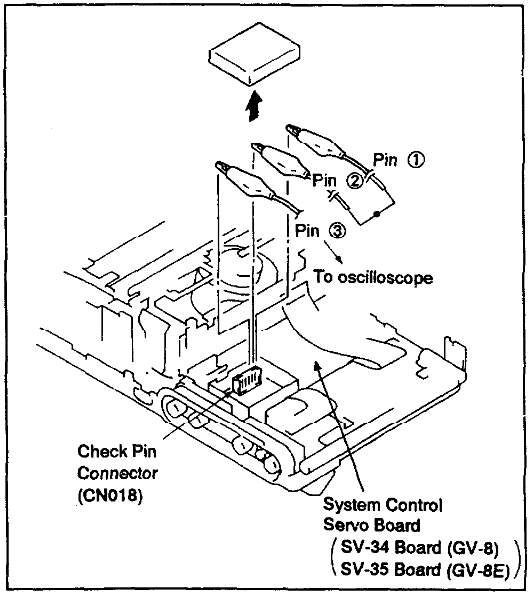

Pin ①
Pin ②
Pin ③
To oscilloscope
Check Pin Connector (CN018)
System Control Servo Board
SV-34 Board (GV-8)
SV-35 Board (GV-8E)

Fig. 4-3.

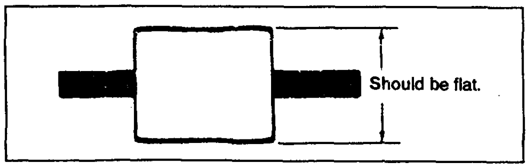

Should be flat.

Fig. 4-4.

4-3. TRACKING ADJUSTMENT (See Fig. 4-5.)

1) Play back the alignment tape for tracking adjustment.
2) Pass a hexagonal wrench, screwdriver (Ref. No. J-11) or the like through the hole ❶, loosen the lockscrew ❷ a little, then make the entrance side waveform flat by turning the No. 3 guide (TG-3) ❸.
3) Pass a hexagonal wrench, screwdriver or the like through the hole ❹, loosen the lockscrew ❺ a little, then make the exit side waveform flat by turning the No. 6 guide (TG-6) ❻.

Note: Take care not to loosen lockscrews too much, since guides come loose easily.

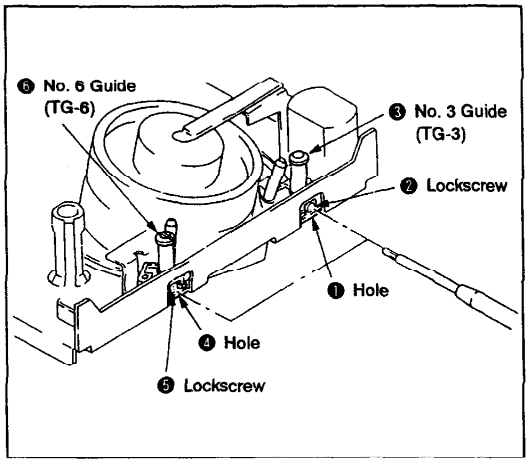

❻ No. 6 Guide (TG-6)
❸ No. 3 Guide (TG-3)
❷ Lockscrew
❶ Hole
❹ Hole
❺ Lockscrew

Fig. 4-5.

4-4. TRACKING FINE ADJUSTMENT (See Figs. 4-5. and 4-6.)

1) Play back the alignment tape for tracking adjustment and set the track shift mode.
2) Confirm whether the waveform is flat. If it is not, turn the No. 3 (TG-3) and No. 6 (TG-6) guides so that it becomes flat.
3) Fix the No. 3 guide ❸ by tightening its lockscrew ❷. Then confirm that the entrance side waveform has not changed.
4) Fix the No. 6 guide ❻ by tightening its lockscrew ❺. Then confirm that the exit side waveform has not changed.

Note: The set screws ❷ and ❺ should be tightened with a tightening torgue of approx. 200g•cm ± 10%.
If tightened too much, there is danger of damaging the thread.

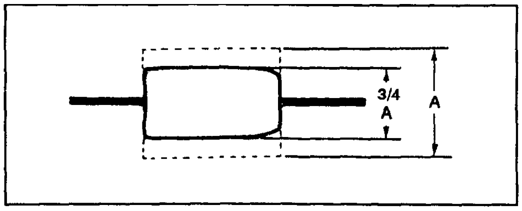


Fig. 4-6.

4-5. No. 2 GUIDE (TG-2) ADJUSTMENT

When the No. 2 guide has been turned or replaced, perform height presetting before this adjustment.

4-5-1. No. 2 Guide (TG-2) Height Presetting (See Fig. 4-7.)

1) Adjust the height from the mechanism chassis upper surface to the TG-2 upper flange ❶ upper surface to 18.6 mm by rotating the TG-2 upper flange ❶.

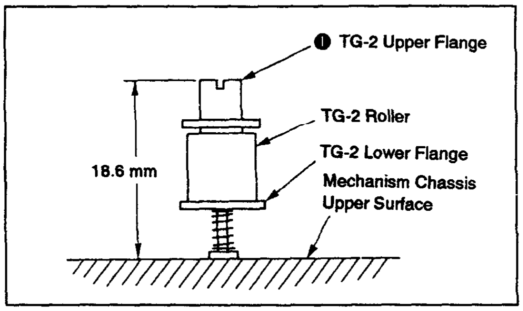


Fig. 4-7.

[Reference]
This U mechanism is equipped with four adjustable guides (TG-2, 3, 6 and 7). To raise or lower the respective guide rotate the corresponding adjustment screw as shown below.

Guide	Guide adjustment	Rotating direction of adjustment screw
TG-2, 3, 6	Raise	Counterclockwise
	Lower	Clockwise
TG-7	Raise	Counterclockwise
	Lower	Clockwise

4-5-2. No. 2 Guide (TG-2) Adjustment (See Figs. 4-8. and 4-9.)

1) Play back a thin tape like the P6-120MP, etc. and set the REV mode.
2) Confirm that the tape is not bent at the lower flange ❷ of the No. 2 guide (TG-2) ❶ (See Fig. 4-8). If it is, turn the upper flange ❸ of the No. 2 guide (TG-2) ❶ clockwise with a screwdriver, lowering it until the tape is straightened.
3) Play back the alignment tape for tracking adjustment.
4) Perform tracking adjustment and tracking fine adjustment as described in sections 4-3. and 4-4.
5) In the track shift mode, CUE/REV the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds.
6) If the waveform is not normal (See Fig. 4-9), turn the upper flange ❸ of the No. 2 guide (TG-2) ❶ 90° counter-clockwise and repeat step 5.
   Repeat steps 5 and 6 until a normal waveform is obtained. Then, confirm that the tracking waveform has not changed. If it has, perform fine adjustment of entrance side tracking and repeat step 5.

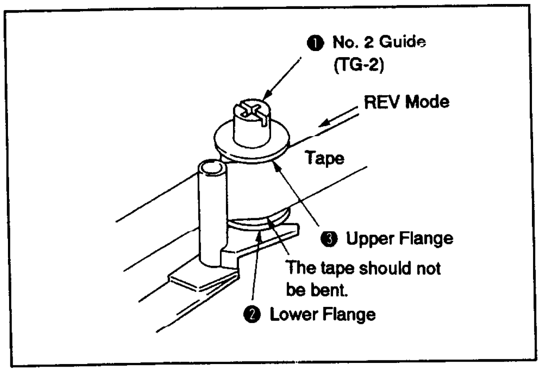

❶ No. 2 Guide (TG-2)
REV Mode
Tape
❸ Upper Flange
The tape should not be bent.
❷ Lower Flange

Fig. 4-8.

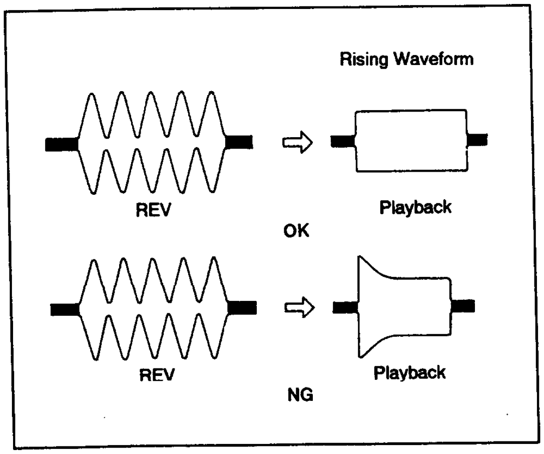

Rising Waveform
REV
OK
Playback
REV
NG
Playback

Fig. 4-9.

4-6. No. 7 GUIDE (TG-7) ADJUSTMENT (See Fig. 4-10.)

1) Play back the alignment tape for tracking adjustment and set the REV mode.
2) Confirm that the tape is not bent between the No. 6 guide (TG-6) ❶ and the capstan ❷ . If it is, turn the hight adjusting screw ❹ of the No. 7 guide (TG-7) ❸ until the tape is straightened.
3) Set the playback mode again and confirm that the tape is not bent between the capstan ❷ and the hight adjusting screw ❹ of the No. 7 guide (specification:0.5 mm or less) . If the tape is bent beyond the specification, turn the No. 7 guide (TG-7) ❸ until bending is within the specification (0.5 mm).
   If in the REV mode tape bending between the No. 6 guide (TG-6) ❶ and the capstan ❷ is 0.3 mm or less, adjustment can be considered completed.

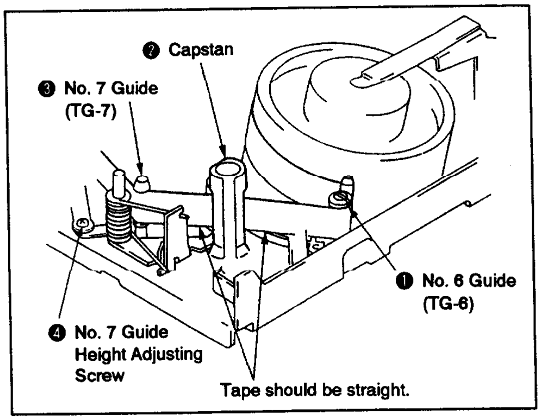

❷ Capstan
❸ No. 7 Guide (TG-7)
❶ No. 6 Guide (TG-6)
❹ No. 7 Guide Height Adjusting Screw
Tape should be straight.

Fig. 4-10.

4-7. CUE AND REV WAVEFORM CHECK (See Fig. 4-11.)

1) Play back the alignment tape for tracking adjustment and set the REV mode. Confirm that waveform peaks maintain a constant pitch of 5 seconds or more (See Fig. 4-11). In case pitch is not constant, perform section 4-4. Tracking Fine Adjustment and section 4-6. No. 7 Guide Adjustment.
2) Set the CUE mode. Confirm that waveform peaks still maintain a constant pitch of 5 seconds or more (See Fig. 4-11). Otherwise, perform section 4-4. Tracking Fine Adjustment.

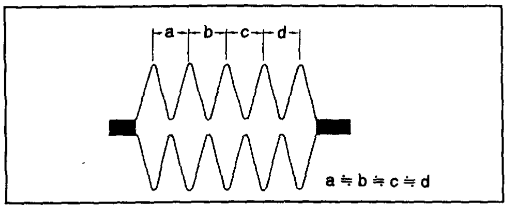


Fig. 4-11.

4-8. CHECK AFTER ADJUSTMENT

4-8-1. Tracking Check

1) Confirm that the amplitude of RF waveform is reduced to approx. 3/4 when the track shift mode is set (See Fig. 4-12).
2) Then, confirm that the minimum amplitude value (EMIN) is 65% of the maximum value (EMAX) or larger (See Fig. 4-13).
3) Confirm that no large fluctuations occur on the waveform (See Fig. 4-14).

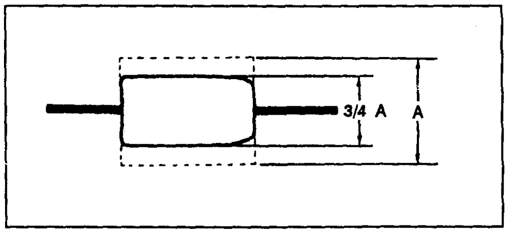


Fig. 4-12.

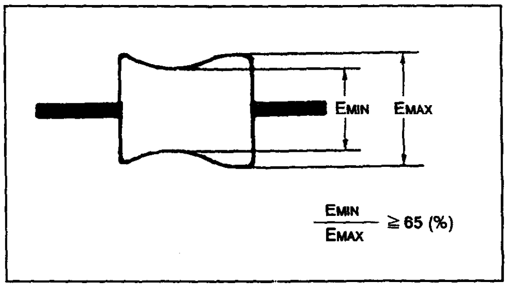


Fig. 4-13.

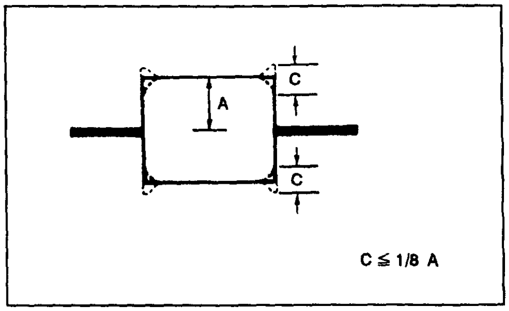


Fig. 4-14.

4-8-2. Rising Check (See Fig. 4-15.)

1) Play back the alignment tape for tracking adjustment.
2) Cancel the track shift mode.
3) Eject the tape, then load it again.
4) Set the playback mode and confirm that the RF waveform rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller (See Fig. 4-15).
5) CUE/REV and FF/REW the tape, then play it back and confirm that the RF waveform rises flat within 2 seconds. Also confirm that the tape is not bent around the pinch roller.
6) Repeat steps 3) to 5) once more.

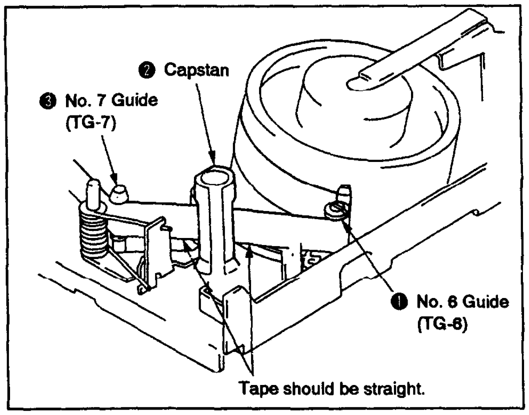

❷ Capstan
❸ No. 7 Guide (TG-7)
❶ No. 6 Guide (TG-6)
Tape should be straight.

Fig. 4-15.

4-8-3. Tape Path Check (See Fig. 4-16.)

1) Play back a thin tape like the P6-120MP (NTSC) or P5-90MP (PAL), etc. and confirm that no tape rising occurs, and that curling is less than 0.3 mm, at the lower flange of the No. 2 guide, the upper flange of the No. 3 guide, the upper flange of the No. 6 guide and the No. 7 guide upper and lower flanges.
2) Confirm that no tape rising occurs and that curling is less than 0.3 mm at the flanges of all guide when pressing the FF button in the playback mode to set the CUE mode, or the REW button to set the REV mode.

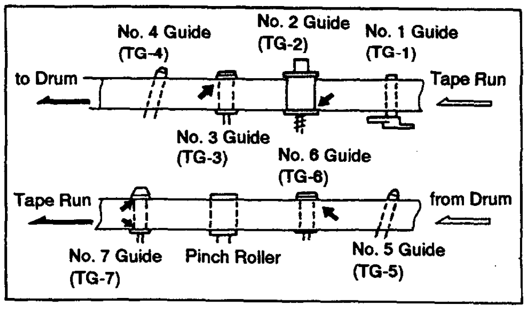

No. 4 Guide (TG-4)
No. 2 Guide (TG-2)
No. 1 Guide (TG-1)
to Drum
Tape Run
No. 3 Guide (TG-3)
No. 6 Guide (TG-6)
Tape Run
from Drum
No. 7 Guide (TG-7)
Pinch Roller
No. 5 Guide (TG-5)

Fig. 4-16.